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MATERNAL CHILD HEALTH- FAMILY PLANNING SURVEY

PERNAMBUCO STATE, BRAZIL - 1980

Sociedade Civil Bem-Estar
Familiar no Brasil (BEMFAM)
Rio de Janeiro, Brasil

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1. INTRODUCTION

In 1965, BEMFAM (Sociedade Civil de Bem-Estar Familiar no Brasil) was created as a private voluntary organization to provide family planning information and services in Brazil. From its inception through mid-1973, BEMFAM delivered its services through a network of clinics located primarily in the urban areas of the country (Rodrigues, 1979). In 1973, BEMFAM recognized that this approach to service delivery was not appropriate for reaching the large rural population of Brazil, so it launched the first of its state community-based distribution (CBD) programs in the Northeastern State of Rio Grande do Norte in partnership with the State Health Department (Davies and Rodrigues, 1976). In 1975, CBD programs were initiated in the States of Pernambuco, Paraíba, Alagoas, and Paraná; and in 1979 and 1980, CBD programs were developed in the States of Piauí and Rio de Janeiro, respectively.

Evaluation of the programs from 1973 through mid-1977 was carried out principally by analysis of the service statistics routinely collected in each state. These analyses presented counts of new clients and revisit clients, counts of cycles of oral contraceptives distributed, estimates of active clients, and estimates of acceptance and prevalence rates based on population projections from the 1970 census. In 1977, a followup survey of clients was conducted in Rio Grande do Norte to investigate questions that the CBD data system could not answer and to supplement field observations and subjective impressions about the programs (Gorosh, et al, 1979).

In 1978, a Contraceptive Prevalence Survey was conducted in São Paulo State, the largest and most industrialized State in Brazil (Nakamura, et al, 1980; Janowitz, et al, 1980) and in 1979, a survey of maternal and child health and family planning was conducted in Piauí, one of the smallest and least industrialized States in Brazil (Rodrigues, et al, 1981). The survey in Piauí was also designed to serve as a baseline or pre-program survey in that state (Rodrigues, et al, 1980).

In 1980, a Northeast Brazil Contraceptive Prevalence/CBD Evaluation Survey was carried out in the States of Rio Grande do Norte, Pernambuco, Paraíba, and Bahia (Figure 1). These surveys were designed to cover a range of maternal and child health and family planning topics and, in the States where BEMFAM had been operating CBD programs, to measure program impact. This report presents the results obtained in the Pernambuco Survey. Separate reports will be issued for each of the other three states included in the Northeast Survey. Where appropriate, data from the other states as well as the statewide household surveys in São Paulo and Piauí will be introduced as well.

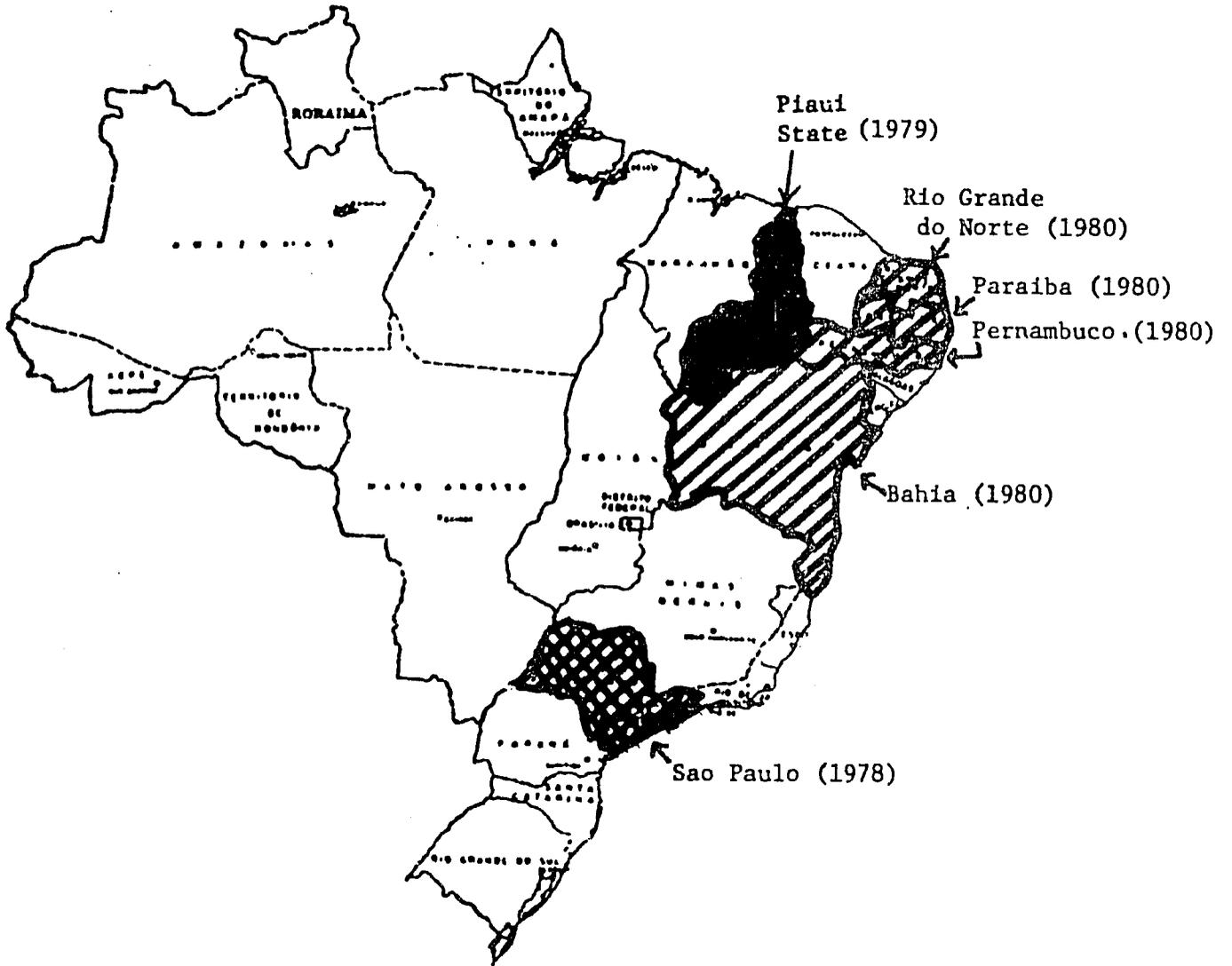
2. SURVEY METHODOLOGY

Sampling Design

The 1980 Maternal-Child Health/Family Planning (MCH/FP) Survey in Pernambuco State was a multi-stage area probability survey with a 2-stage selection: the selection of census sectors and selection of households within census sectors. The statewide survey included two strata: a Greater Recife metropolitan area and the Interior of the State. The Greater Recife area included the municipalities of Cabo, Igarapu, Itamaracá, Jaboatão, Moreno, Olinda, Paulista, Recife, and Sao Lourenço da Mata. In the first stage, a systematic sample with a

FIGURE 1

Statewide Maternal-Child Health/Family Planning Surveys
Brazil, 1978-1980



random start was utilized to select census sectors with probability proportional to the number of households in each sector. The census sectors were defined as urban or rural in accordance with the definitions of the 1980 census, which was made available as a sampling frame by the Brazilian Institute of Geography and Statistics. Within selected census sectors, clusters of 15 households were selected for interview in the Greater Recife area, and clusters of 25 households were selected for interview in the Interior of the State.

Sampling probabilities were not equal in the two strata. For example, the Greater Recife metropolitan area was oversampled and constituted 50 percent of the total sample whereas this area contained only 36 percent of the State population. In contrast, the Interior was undersampled and constituted 50 percent of the total sample and 64 percent of the total population. Oversampling of the Greater Recife area was necessary to have adequate numbers in that stratum for analysis purposes. In addition, since only one woman per household was selected for interview, each respondent's probability of selection was inversely proportional to the number of eligible women in the household. Thus, to make estimates of proportions and means, weighting factors have been applied to account for these unequal probabilities. In the tables that follow, percentages are based on the weighted number of observations, but the unweighted number of cases are shown.

The unweighted number of cases is necessary for estimates of sampling errors, and in this case sampling errors would be different than those expected in a simple random sample because of the selection of clusters of households (design effect). For the total State, the variable "current use of

contraception" for married women has an estimated sampling error of 5.0 percent within a 95 percent confidence interval, including the estimated design effect. In each stratum, the same variable has an estimated sampling error of 5.4 percent.

Even though only one woman was selected at random to respond to the entire questionnaire, it is important to note that information was collected for all women in the household between the ages of 15 and 44 on age, marital status, education, and fertility. In addition, the immunization status of all children less than 5 years of age was obtained.

As shown in Table 1, 2,079 (69.2 percent) of the sampled households contained or may have contained at least one woman aged 15 to 44. The proportion of households in which women eligible to be respondents were identified was higher in Grande Recife (72.9 percent) than in the Interior (61.4 percent). This difference stems from larger proportions of vacant households and households without eligible women in the Interior than in Grande Recife. The former, in particular, may be due to increased levels of migration from the Interior during a drought that began in 1979. Completed interviews were obtained from 94.1 percent of households in which there was known to be or may have been an eligible woman. This figure is even higher when only households known to contain eligible women are considered (less than 4 percent of possible interviews were not completed because the woman refused to be interviewed or the selected woman was not at home). The completion rate was higher in Grande Recife, but only because potential respondents were more often home and not because of lower refusal rates. Information was also

obtained on the immunization status of all children less than 5 years of age in sampled households. There were a total of 1,847 children included in the survey.

Comparison with Other Data Sources

There are two main sources of data with which to compare the 1980 MCH/FP Survey in Pernambuco --the 1970 Census (1980 results were not yet available at this writing) and the National Sample Surveys of Households (PNAD) conducted in 1972, 1976, and 1978. The PNAD reports do not show results for Pernambuco separately, but do include data for both urban and rural areas of northeastern Brazil (Region 5), which includes the States of Pernambuco, Maranhão, Ceará, Rio Grande do Norte, Paraíba, Piauí, Alagoas, Sergipe, and Bahia. There may be some differences between the Northeast as a whole, the poorest region of Brazil, and Pernambuco because of the presence of the largest metropolitan area in the Northeast, Recife, and the fact that a larger proportion of the population of Pernambuco than of the Northeast lives in urban areas. For these reasons, the fact that Pernambuco is only 1 of 9 Northeastern states, and the passage of time between the two surveys, there may be some differences expected between the 1980 survey and the PNAD results.

The distribution of 15-44 year-old women by age in the 1980 survey is very similar to that from other sources (Table 2). The only noteworthy differences occur in the rural areas where the 1980 survey shows fewer 20-24 year-olds and more 35-39 year-olds than other sources. This could be due to recent migration of young women from rural areas (possibly accelerated very recently by a prolonged drought in Northeastern Brazil) or to sampling variation.

The top panel of Table 3 shows the proportion currently in union to be higher in the 1980 survey than in the 1970 Census and slightly higher than in the 1978 PNAD. (The overall proportion married is somewhat inflated in the PNAD relative to the 1980 survey because it includes 45-49 year-olds.) The bottom panel of Table 3 indicates that the differences between the 1970 and 1980 data may be due to many women actually in consensual unions reporting themselves as never married in the census. The PNAD and 1980 survey marital status distributions are very similar.

Some differences can be seen between the 1976 PNAD and the 1980 survey data in distributions of ages of women giving birth in the past year (Table 4). In urban areas 38.5 percent of births in the past year occurred to 15-24 year-old women according to the 1976 PNAD, while 45.2 percent of births occurred to such women according to the 1980 survey. This difference may be an indication of a decline in fertility. The early stages of marital fertility decline is usually characterized by control of fertility in the later years of childbearing, producing a shift in the age distribution of women giving birth such that higher proportion of births are at younger ages.

3. Demographic Analysis

Based on a comparison of mean parity, in the 1978 Survey and the 1980 Contraceptive Prevalence Survey, in recent years there have apparently been only small changes in age-specific parity in Pernambuco (Table 5).

Table 6 consists of a comparison of mean parity among residence and education categories for age and marriage cohorts. Parity is much lower in Grande

Recife than in Pernambuco's Interior starting with ages 25-29 and marital durations 10-14. For the oldest and longest married cohorts these differences exceed two births per woman. Overall, Recife respondents average 1.1 fewer births, but part of this may arise from age or marriage duration differences. Mean parity shows a strong inverse correlation with women's educational levels, even for the youngest and most recently married respondents. The greatest differences are between women with more than a primary education and others. The former average only about four births per woman in the oldest age group and longest married cohort while those with just a primary education report from seven to eight births per woman.

Estimates of period fertility measures for Pernambuco are presented in Table 7. The estimated crude birth rate of 33.1 per thousand is substantially higher than the 24 per thousand estimated for São Paulo State in 1978, but is well below Piauí's 1979 rate of 40 per thousand (Nakamura, et al, 1979; Rodrigues, et al, 1981). The estimated total fertility rate in Pernambuco is 4.7 births per woman. Estimates for 1976 (based on PNAD data) place the total fertility for Brazil as whole at 4.2 and for the Northeast at 6.0. Thus, current fertility in Pernambuco is higher than in the nation as a whole but is apparently well below that in Northeastern Brazil (Magno de Carvalho, 1980). Grande Recife and urban fertility is lower than in the Interior and rural areas, respectively. (Calculation of all rates in Table 7 were based on responses to the question: "What was the date of your last live birth," from which the number of births occurring in the 12 months prior to interview were tabulated.)

One means of approximating recent changes in fertility involves calculating the number of children who would ever be born to women at each age, if the age-specific fertility rates of the previous year (F_i) are held constant. This rate can then be compared with the reported mean number of children ever born at each age (P_i) (Potter, et al, 1976). A ratio of P_i/F_i of greater than 1.00 is indicative of recent fertility decline if birth dates, parity, and women's ages has been reported accurately.

Results of the application of this P/F ratio procedure to the Pernambuco survey data are shown in Table 8. The ratios for women at ages 30-34 and older point toward substantial recent declines in fertility. The ratios start slightly above 1.00 at ages 20-24 and climb steadily from there for the population as a whole and for each of the two strata consistent with greater decline at older ages (Ratios for ages 15-19 may be ignored, since they are often misleading due to the small proportion of women married in this age group.). The ratios for the Interior are markedly higher than for Grande Recife starting with ages 25-29, indicating that fertility has declined more in the Interior than in Grande Recife in recent years despite the fact that levels of fertility are still much higher in the Interior.

P/F ratios based on years since first marriage rather than respondents' ages, control for changes in age at marriage (so they describe relative changes in marital fertility), and eliminate any effects of poor age reporting. These ratios for Pernambuco (not shown) indicate that the fertility decline in both strata has been due predominantly to changes in marital fertility rather than merely to increases in the mean age at marriage. They also show that the decline in marital fertility has been slightly greater in the Interior than in

Grande Recife. These ratios are below 1.00 at the shortest durations, which usually indicates that there is some misreporting of birth dates, resulting in an exaggeration of births in the previous 12 months (Anderson, 1980). Such misreporting is likely to bring about inflated estimates of current fertility so that actual fertility rates may be slightly lower than indicated in Table 7.

Breastfeeding is an important element in child health and also can affect fertility through prolongation of the period of postpartum amenorrhea. The breastfeeding information presented in Table 9 is based on reported current breastfeeding status of children by age rather than on retrospective data on length of breastfeeding, which tends to be unreliable because of the imprecise memory of many mothers and a tendency to report too many children with breastfeeding durations of 6, 12, 18, and 24 months. The current status data were adjusted to yield a smoother distribution by fitting them to a model breastfeeding schedule devised by Lesthaege and Page (1980).

The figures in Table 9 are striking because of the low degree of breastfeeding they reveal. In both Grande Recife and the Interior less than one-half of women (44 percent and 41 percent, respectively) were breastfeeding as little as 1 month after their last live birth. (The fact that less than one-half of women were breastfeeding at 1 month precludes the calculation of median breastfeeding durations; thus the mean is shown.) Six months after birth only 25 percent of children were still being breastfed and at 1 year only 14 percent. The only noteworthy differences between strata occur at durations of 1 year or more where a somewhat higher proportion of Interior than Recife women continue to breastfeed.

4. History of Spontaneous and Induced Abortion

Previous studies in Brazil, conducted in the municipio of São Paulo and in Rio de Janeiro, estimated that between 9 percent and 11 percent of ever married women had had at least one induced abortion (Milanesi, 1970; Hutchinson, 1964). According to the Milanesi study in São Paulo 18 percent of pregnancies terminated in abortion and one-third of abortions were induced. In a more recent study in São Paulo in 1978, women in the municipio of Sao Paulo reported that 16 percent of abortions were induced (Nakamura, 1979), and in a 1979 survey in Piauí State in Northeast Brazil (Rodrigues, 1981), 11 percent of women ever experiencing abortion reported that their most recent abortion was induced.

Respondents in the Pernambuco Survey were also asked whether they had ever had an abortion, either spontaneous or induced. If they had, they were asked how many they had undergone. As shown in Table 10, 11.7 percent of all pregnancies were reported to have ended in a spontaneous or induced abortion. This proportion generally increases with age and is higher in urban than in rural areas. This proportion is low relative to estimates of pregnancies terminating in spontaneous abortion alone, which has been found to range from 10 percent to 19 percent in prospective studies (Anderson, 1979). As in other retrospective surveys, then, it is probably safe to assume that abortion is underreported. However, because the average number of reported pregnancies was large (6.5 or more for women over age 35), abortion experience was found to be fairly common, indicating that abortion--either spontaneous or induced--is a health problem in Pernambuco.

In total, 20.7 percent of women 15-44 years of age reported at least one abortion (Table 11). The reported incidence among never married women was reported to be low, 3.3 percent. Among married women there was not much difference between either Greater Recife and the Interior or urban/rural areas in proportions with abortion experience.

Those who reported at least one abortion were asked whether their last was induced. Overall, 12 percent of women with a history of abortion admitted that their last abortion had been induced. This compares with 11 percent reported in Piauí (Rodrigues et al, 1981).

According to Table 10, the percent of pregnancies ending in abortion did not vary consistently by age or education. However, a greater proportion of pregnancies in Greater Recife and urban areas were reported to have ended in an abortion than in the Interior or in rural areas. The most important determinant of whether a woman in a given category has had abortion experience appears to be the number of pregnancies. The percent of currently married women with at least one spontaneous or induced abortion increased with age and years since first marriage and was inversely related to education and income (<5 minimum salaries versus 5 or more minimum salaries), mainly due to decreasing numbers of pregnancies with increasing educational income (Table 12). Abortion appears to be fairly common in nearly every other category in Table 12.

As shown in Table 12, the proportion of women with a history of abortion was not significantly different in the two regions of the State--Grande Recife and the Interior. If the abortions were principally spontaneous, one might expect

that the proportion of women with a history of abortion would be higher in the Interior where fertility has been shown to be higher, since the more pregnancies a woman has, the more likely she is to have experienced a spontaneous abortion. Since there is no significant difference between Recife and the Interior, one may infer that a higher proportion of the abortions in Recife than in the Interior is induced, unless there is more complete reporting of spontaneous (or induced) abortion in the former. The percentage of pregnancies ending in abortion (Table 10) was also higher in Recife and urban areas in each age group and by number of pregnancies.

All women with a history of abortion were asked if they had any complications with their most recent abortion. Of those who had at least one abortion, 40 percent had received medical attention following their last abortion (Table 13), and 33 percent had been hospitalized. Medical attention and hospitalization does not vary significantly between Grande Recife and the Interior or between urban and rural areas. Results from surveys in São Paulo State in 1978 and Piauí State in 1979 were similar (Nakamura, 1979; Rodrigues, 1981). Of women with reported abortions, 43 percent and 50 percent received medical attention, and 36 percent and 39 percent were hospitalized, respectively; there were no urban-rural differences.

Even though not all abortions are characterized as induced, the fact that a high proportion of women with some type of abortion needed medical attention documents the anecdotal reports of abortion as a public health problem. Also, previous studies in Brazil, with the exception of the São Paulo and Piauí Surveys, were based only on abortions that resulted in hospitalization. Without any knowledge of how many abortions were occurring in the community,

the extent of the medical complications resulting from abortion could not be determined. The data from the Pernambuco Survey document the proportion of women with abortions that needed hospitalization. Although women may under-report abortions in a household interview or may be more likely to report only those abortions with subsequent complications, we have no way of knowing what the level of omission might be. However, even if the number of abortions undergone by respondents are underreported in this survey, the magnitude of the abortion problem in the State of Pernambuco is "at least" that found in the survey.

According to the survey, about 11 percent of all married women, more than 1 in 10, have had at least one spontaneous or induced abortion and were hospitalized overnight for complications. In both Grande Recife and the Interior hospitals were the most common place of treatment for women with complications of abortion (Table 14). A greater proportion of women in Greater Recife than in the Interior received their treatment at INPS and private facilities.

5. Planning Status of Recent Pregnancies and Current Pregnancy Intentions

All ever pregnant women interviewed were asked a sequence of questions about whether they had wanted to become pregnant at the time of their most recent conception and, if they had not, whether they had wanted to have any more children. On the basis of these questions, each woman's most recent pregnancy was classified as "planned," "mistimed," "unwanted," or "unknown." Planned pregnancies were defined as those which were desired and did not occur before they were intended. Mistimed pregnancies were those which were wanted but not at the time they actually occurred. Those pregnancies in excess of the total

number desired were classified as unwanted. The remainder were categorized as unknown because of insufficient data about reproductive intentions. These four categories are mutually exclusive and exhaustive. The planned and mistimed categories can be combined into "wanted pregnancies" while mistimed and unwanted pregnancies comprise the category "unplanned pregnancies." This typology conforms to that of the published analysis of the National Fertility Surveys in the United States (Westoff, 1976).

Based on these definitions, according to the Pernambuco Survey, just over one-half (50.8 percent) of most recent pregnancies to currently married women were planned, 17.0 percent were mistimed, and 26.2 percent were unwanted (Table 15). Thus, 43 percent of all most recent pregnancies could be considered unplanned.

Among married women, those in Grande Recife as well as those with higher education were slightly more likely to have planned their most recent pregnancy, but this could be due to the fact that mean parity is higher in the Interior and among women with less education and unwanted pregnancies increase with parity. The proportion of unplanned pregnancies increases sharply with increasing age and parity after age 24- and parity 2. This is expected in developing nations where there typically is little control of fertility in the early years of childbearing. Those women who married very young (before age 15) had far more unplanned pregnancies than others did. This group probably contains a large proportion of women with premarital conceptions and little education, so this result is not surprising.

As mentioned above, there is a strong direct association between education and whether the last pregnancy was planned despite the fact that education is also correlated inversely with age. Above the lowest household income category planned pregnancies increase with income. Among unplanned pregnancies there are about one-and-a-half as many unwanted as mistimed pregnancies. This ratio is maintained for both residence groups. The ratio of unwanted to mistimed pregnancies increases sharply with age and parity. Women married before age 20 had more unwanted than mistimed pregnancies while there is little difference between the two for women married later. However, this might be an age effect if age at marriage has been increasing. Only the highest education and income categories differ from others in regard to planning status of most recent pregnancies. Both have had more mistimed than unwanted pregnancies, a reflection of lower parity.

There exist three other studies containing information on planning status of pregnancies in Brazil (Rodrigues, et al., 1981; Nakamura, 1980; Etges, 1975). In the Etges study in 1973, more than one-half of most recent pregnancies in three cities of Rio Grande do Sul were reportedly unplanned. Likewise, in a 1979 contraceptive prevalence survey of Piauí State just over half of most recent pregnancies were not planned. This magnitude of unplanned pregnancies is slightly higher than the 43 percent reported in the Pernambuco Survey. In the Nakamura study, a contraceptive prevalence survey, conducted in the state of São Paulo in 1978 only, one-third of most recent pregnancies were reported as unplanned.. In all these studies the proportion of pregnancies planned increased with education and income.

A factor related to planning status is the timing of first birth (or conception) relative to time of first entry into a marital union. In the survey, women were asked the date of their first live birth as well as the date of first union. Only information on first birth is known, so if more than one premarital conception occurred to a woman only one would be apparent. For this reason, and the possible misreporting of birth dates in order to conceal premarital conceptions, actual premarital conception rates are likely to be somewhat higher than might be inferred from our figures.

Almost 3 of every 10 women first married no more than 5 years before interview reported that their first birth had occurred either before marriage or in the first 7 months following marriage (Table 16). This figure is slightly higher in Grande Recife than in the Interior and is appreciably higher among women with no schooling than among women with any education. Overall, slightly more of the premarital conceptions resulted in premarital than in postmarital births. However, among women with premarital conceptions, there is a major shift from premarital births to births in the early months of marriage with increasing education. Among the best educated women, three-fourths of premarital conceptions reportedly resulted in births after marriage, while this figure is only one-fourth among the uneducated.

Table 16 includes no information on births to never married women. Overall, 6.3 percent of births in the previous 12 months occurred to such women and another 3.1 percent occurred to previously married women. Births to single women were not confined to the youngest age groups but occurred to women of all ages. About 36 percent of births to single women were to 15 to 19 year-old women with this figure somewhat higher in Grande Recife than in the Interior, 40 percent vs. 33 percent.

Table 17 describes current pregnancy intentions of currently married women in the Pernambuco Survey. Overall, 70.4 percent of these women did not desire to get pregnant at the time of interview, 15.1 percent were currently pregnant and only 10.1 percent wanted to become pregnant. Over 60 percent of each segment of the population, except for childless women and those less than 25 years of age, did not currently desire to become pregnant. A slightly higher proportion of Grande Recife than of Interior women did not desire a current pregnancy. There are also weak relationships between current pregnancy intentions and education, household income, and work status. Beyond low parities no relationships exists while desire for pregnancy decreases with increasing age or parity.

There are strong relationships between proportion of women currently pregnant and age, work status, and parity (but only up to parity 4). There is little association between the probability of being (reportedly) currently pregnant and education or income.

The results of this section illustrate various dimensions of the need for family planning in Pernambuco, as measured by the 1980 Contraceptive Prevalence Survey. Unplanned pregnancies reportedly represent almost half of all pregnancies, and most unplanned pregnancies result in unwanted rather than mistimed births. Premarital pregnancy seems to be a relatively common phenomenon. While 70 percent of married women claim not to want to become pregnant, currently only 41 percent were using contraception, and this discrepancy is much larger among certain segments of the population. In a later section, these results will be used to define the number and characteristics of women in need of family planning services.

6. Current Use of Contraception

Results of the Pernambuco Survey indicate that 41.4 percent of currently married (in union) women 15-44 were currently using a contraceptive method of recognized efficacy (Table 18). The percent using can be calculated using a number of different denominators as shown in Table 18, and increases as the denominator is progressively restricted from 24.3 percent using among all women 15-44 to 52.6 percent for married women who would be exposed to pregnancy if not using contraception. The smaller difference in contraceptive use between urban and rural women using the denominator "all women" compared with the more restrictive denominators may be explained by the lower percentage of married women in urban areas.

The results presented here will focus on the level of use among currently married women aged 15-44. The level of use found in Pernambuco, 41.4 percent, is less than that found in São Paulo State, 63.9 percent (Nakamura et al, 1980), but greater than that found in Piauí State, 30.9 percent (Rodrigues, et al, 1981), the only other States in Brazil with a comparable survey of contraceptive use prior to 1980.

The percent using contraception is 51.5 percent in Greater Recife and 35.0 percent in the Interior (Table 19), consistent with the differences found in fertility rates. Sterilization is the most prevalent method, accounting for almost half of all contraceptive use followed by oral contraceptives employed by 30 percent of all users. No women reported that their husbands had undergone vasectomies, so all sterilizations reported are tubal ligations. The only other methods of any consequence are withdrawal and rhythm, together

used by 17.1 percent of women, about one-sixth of all users. Sterilization is the most prevalent method in Greater Recife, used by twice as many women as pills are. However, in the Interior, about equal percentages of women use surgical and oral contraception. Withdrawal is more prevalent in the Interior where it is used by 4.9 percent of all married women or 14 percent of all current users compared to 3 percent of current users in Greater Recife. There is no significant difference in contraceptive use between the municipio of Recife and the other municipios of Grande Recife.

Contraceptive use increases with age up to ages 30-34 (Table 20). Above age 35, 45 percent of married women were using a contraceptive method, with sterilization accounting for almost two-thirds of all use. For women below age 30, as well as for women with fewer than three children, oral contraception, a reversible method, was most prevalent (Table 21). The low percentage (12.2 percent) of childless married women using contraception compares favorably to the small proportion of married women in this category (21 percent) who are not pregnant and do not currently desire a pregnancy (Table 17).

The average age of women who have undergone surgical contraception was 34.6 years at the time of the survey (Table 22). However, the sterilization had occurred on the average 3.5 years earlier, at 31.1 years of age. Thirty-seven percent of sterilized women in the survey had five or more children. In comparison, only 23 percent of women in Sao Paulo State had 5 or more children at the time of sterilization, whereas in Piaui over half of sterilized women had 5 or more children. The mean number of living children at the time of sterilization was 3.9 in Pernambuco. The sterilizations reported in the survey appear to be of recent occurrence (Table 23). Sixty-five percent of

women undergoing this procedure were sterilized since 1976 and 91 percent since 1971.

Three-fourths of sterilized women had their operation in the same year as their last live birth. As will be seen in Chapter 12, 70 percent were sterilized at the same time that they had a cesarean delivery, indicating high reliance on postpartum sterilization. This pattern exists for both regions of the state, all year of sterilization groups, and all age groups with the exceptions of women 40-44 years of age who appear to have undergone more interval procedures.

Current use of contraception has a strong relationship with education (Table 25), increasing from 27.8 percent using among those with no education to 60.1 percent for those with greater than a primary education. Women with a completed primary education report levels of use nearly twice as high as those with no education. The relative rankings of the methods are the same at all levels of education, except that withdrawal is somewhat more common in the lower education categories.

Current use of contraception is also strongly related to household income, increasing from 26.2 percent in the lowest income category to 62.9 percent in the highest (Table 26). Sterilization is the most prevalent method in all categories followed by orals, but the difference in use between the two methods is much smaller in the lowest income categories. Together, rhythm and withdrawal account for about 7 percent of use in all income categories. Overall, approximately equal proportions use each of these two methods, but

withdrawal is more common than rhythm at lower income levels. There are only inconsequential differences in contraceptive use between working and non-working women (Table 27).

When age, education, work status, or household income is controlled (Table 28), the difference in contraceptive use between regions and between residences decreases somewhat but is generally consistently maintained. Conversely, the relationship of each of the sociodemographic variables to use is maintained within Greater Recife and the Interior with use increasing with age (until ages 30-34) and education. Although use increases with income in urban areas, it does not in rural areas. More non-working women in Greater Recife than working women in the Interior are contracepting, indicating that accessibility to contraception may also be important.

Similarly, contraceptive use increases with education when age, residence, or working status is controlled (Table 29). Also, within education categories, use tends to increase with age and income except for the low education category. There is no clear association between education and family income. More women with no education in Recife use contraception than do women in the Interior with some primary education..

7. Source of Contraception

The public sector is the most important source of contraception for currently using married women in Pernambuco. State health facilities, including hospitals, health centers, and health posts, BEMFAM posts, and community distributors are the source of contraception for 34.4 percent of users (Table 30).

The second most important source is the National Institute of Social Welfare (INPS), which supplies 21.2 percent of users. Pharmacies (14.5 percent) and private physicians (11.1 percent) are the most important private sector sources of contraception.

In Grande Recife, state health facilities are only slightly more important than INPS (28.4 percent vs. 25.7 percent) as a source of contraception. In the Interior, however, the secretary of health is a much more important source than INPS (40.0 percent vs. 17.0 percent). This probably reflects the predominantly urban location of INPS medical services. The private sector is also relatively more important in Grande Recife than in the Interior. In Grande Recife, pharmacies and private physicians together serve about 33 percent of users while in the Interior, the proportion is only about 18 percent.

Reported sources of oral contraception and surgical contraception, the two most prevalent methods, are shown in Table 31. State health services are the most important sources of orals (59.8 percent) followed by pharmacies (29.9 percent). INPS is the leading source of sterilization (44.6 percent) followed by hospitals associated with either the State or municipal governments (32.9 percent) and private physicians (20.5 percent). The public sector is the largest supplier of oral contraceptives. Orals distributed by the secretary of health, either in health centers, BEMFAM posts, or by community distributors, are all part of a BEMFAM community-based distribution program begun in 1975 in collaboration with the Secretary of Health (Rodrigues, 1979). This program is the most important single source of oral contraception

in the State (see Section 11--CBD Program) with BEMFAM most likely to be identified as the provider in Greater Recife while health centers or posts are most likely to be identified in the Interior.

Time to source of contraception is shown in Tables 32 and 33. Travel time differences between users and non-users who know where to obtain contraceptives are small and non-systematic, suggesting that travel time may not be a major determinant of use and non-use among individuals. However, rural women and women in the Interior must travel for longer periods to obtain contraception than urban women and women in Grande Recife, respectively, suggesting that travel time may be a determinant of levels of use among areas.

8. Reasons for non-use and desire to use among non-contraceptors

Women not currently using contraception represent the potential for expanding family planning program coverage. Of married women not currently using contraception at the time of the survey, over half (58.1 percent) were not using for reasons related to pregnancy, subfecundity, or lack of sexual activity (Table 34). The largest group of these were women currently pregnant (24.5 percent). Thus, only 41.9 percent of non-users could be considered candidates for adopting contraception at the time of interview. This proportion is lower in Grande Recife (33 percent) than the Interior (46 percent), mainly because of a higher proportion of menopausal and subfecund women in Grande Recife.

Non-users who could be considered current candidates for family planning, gave "side effects" (10.1 percent) and "fear of use" (8.6 percent) as the most

common reasons for non-use. The potential for extending contraception to this group of women may lie in making alternative methods such as condoms, foam, etc., widely available or in informational programs to eliminate any unfounded fears of contraception women may have.

Religious reasons and husband's opposition were discovered to be minor reasons for non-use. Together, these reasons were cited by 7.8 percent of non-users. Lack of knowledge or accessibility of a source of contraception was given as a reason for non-use by only 3.5 percent, indicating that such factors as inadequate resources, knowledge of availability, and knowledge of contraception are not major obstacles to increased use of contraception in Pernambuco.

Reasons for non-use by educational status are shown in Table 35. Non-use for reasons not associated with pregnancy declines as education increases, suggesting that women of relatively low educational status constitute the group with the greatest potential for increased use.

Table 36 shows proportions of non-users who claim to desire to use contraception. Age, education, and family income appear to influence knowledge of where to obtain a method more than they do desire to use. Thus, better educated women, wealthier women, and younger women desiring to use are more likely to know where to obtain contraception than less well-educated, poorer older women. However, the same variables do not appear to discriminate among the total group desiring to use.

Table 37 shows method of choice and source where the method would be obtained for women desiring to use a method. The most frequently mentioned methods of

choice are sterilization (33.7 percent) and orals (25.9 percent). The only other frequently mentioned method is rhythm (8.5 percent). Thus, the two most popular methods currently used, sterilization and orals (Table 19), are also the methods of choice among women who intend to use. Many more non-users in Grande Recife (42.4 percent) than in the Interior (29.2 percent) intend to use sterilization, but the desire for sterilization among non-users in the Interior is nevertheless substantial.

State health facilities are mentioned by 36.5 percent of those desiring to use as the source they would utilize; 16.5 percent said they would go to INPS; 15.7 percent would obtain their method from a physician, and 13.9 percent said they would use pharmacies.

9. Demand for sterilization services

All fecund women who did not want any more children were asked if they were interested in surgical contraception. More than half of these women (54.7 percent) said that they were interested in surgical contraception (Table 38). A much higher percentage of women in Grande Recife (71.6 percent) than in the Interior (46.5 percent) and in urban (61.9 percent) than in rural areas (44.3 percent) are interested in sterilization. The percentage of women interested in sterilization is negatively associated with age but is not associated with family income. The percentage interested in sterilization increases with education and current users of contraception are somewhat more likely to be interested than non-users.

Of these interested in sterilization, 52.7 percent had knowledge of availability of these services or of where to obtain information concerning sterilization (Table 39). The percentage of women with knowledge is significantly higher in the Interior (62.5 percent) than in Grande Recife (39.3 percent). However, when residence is controlled, it can be seen that knowledge is much higher in the urban areas of the Interior (72.4 percent) than in rural areas of the Interior (53.2 percent). Even when educational differences are controlled, knowledge remains higher in the Interior than in Grande Recife and in fact, the differences are even larger. The percentage of women interested in sterilization shows little variation with education but when region is controlled, the data show the group with highest level of knowledge to be women with the highest levels of education residing in the Interior. The greater knowledge of sterilization services in the Interior may be due to the much higher prevalence of sterilization in Grande Recife (29.3 percent) than in the Interior (12.3 percent). Most Recife women with knowledge of availability of services who are interested in sterilization have already acted on this knowledge, leaving those without knowledge in the majority.

Women who said they had both interest in sterilization and knowledge concerning the availability of services were asked why they had not acted upon this interest and knowledge and obtained surgical contraception. Of these women, 50 percent said that the operation cost too much, while an additional 15.7 percent said their doctor refused to perform the operation (Table 40). Thus, over 65 percent of the women report that institutional barriers in the delivery of services were their main reason for not obtaining sterilization. An additional 5.6 percent of women said that they were afraid of the operation or the side effects resulting from it, and 5.1 percent said that their husbands

would not permit it. It may be inferred that these women, even through claiming to be interested, would not have been sterilized even if services were available. Almost 8 percent said that they were intending a postpartum sterilization. When residence is controlled, the data show that surgery costs were a greater barrier in the Interior than in Grande Recife, whereas physician refusal was a more important reason in Grande Recife than in the Interior. A smaller percentage of pregnant women in the Interior than in Grande Recife said that they were intending postpartum sterilization. The higher percentage of cesarian deliveries in Grande Recife than in the Interior, together with the high percentage of women sterilized at the time of cesarian delivery, may explain this difference.

As expected, the percentage of women who said that surgery costs too much was negatively associated with both education and income (Table 41). The percentage of women who reported that the physician refused is positively associated with education, but appears unrelated to income. The percentage of women intending postpartum sterilization increases with income, again indicating that access to cesarean delivery, which depends on income, is a determinant of sterilization (see Section 12). Other variables show little or no variation with education or income except that the higher a woman's education the more likely she is to report that her husband would not permit her to be sterilized.

Women who did not want more children but were not interested in sterilization were asked the reason they were not interested. Almost 60 percent of these women stated the reason as either fear of surgery or fear of side effects (Table 42). The percentage was lower in Grande Recife (50.7 percent) than in

the Interior (59.9 percent). Religious reasons constituted a relatively minor proportion (6.4 percent). Only 2.3 percent stated that they preferred a nonpermanent method. This is in contrast to São Paulo State where this was the most frequent response given by 25.3 percent of the women (Janowitz et al, 1980). However, the results are similar to those for Piauí where only 0.4 percent gave this reason (Rodrigues, et al, 1981). These are not surprising findings if it is kept in mind that sterilization is a relatively more important method of contraception in both Pernambuco and Piauí than in São Paulo. With education controlled, the percent giving fear of surgery or fear of side effects as a reason for lack of interest, shows little variation with education (Table 43). Religious reasons were cited more often by women with less education as are reasons of cost. Again, this is an area in which an educational and informational campaign concerning sterilization could have some impact.

10. Characteristics of Women in Need of Services

As shown in Section 6 (Table 18), 24.3 percent of all women aged 15-44 in the State of Pernambuco reported current use of contraception. With an estimated 1,600,000 women in this age group*, this percent represents 389,000 women using contraception. There is a variety of possible methods of determining

*1980 estimate on a Cohort--Component Projection of women 15-44 years of age, using the 1970 Census (IBGE, 1972) as base. At the time of the time of this writing, 1980 Census data by ages and sex were not yet available.

the number of women who are at risk of an unplanned pregnancy or in need of family planning services. The method used here results in an estimate of an additional 176,000 women aged 15-44 in need of family planning services. A greater proportion of women in the Interior than in Greater Recife were classified as "in need of service," and in both areas a higher proportion of low-income than high-income women were "in need of services." The large majority of women "in need of services" are currently married, have less than a complete primary education, are at least 25 years old, and have more than three living children.

A woman was characterized as "in need of services" (or "having unmet need") if she was not currently pregnant, stated that she did not currently desire to become pregnant and she either (1) was using an ineffective method (douche or herbs) or (2) was not using any method for reasons not related to pregnancy, subfecundity, or sexual activity. Thus, the women defined here as "in need of services" are non-contracepting, fecund, sexually active women (regardless of marital status), who were not currently pregnant and did not desire to become pregnant at the time of the interview.

The percent of women representing "unmet need for contraception" calculated using these definitions varies by characteristics of women as shown in Table 44. Overall, 11.0 percent of all women in the state, or an estimated 176,000 women, are in need of family planning services with a higher percentage in the Interior (13.5 percent) than in Grande Recife (7.5 percent). For the whole state, the percent in need increases with age from 3.1 percent of women aged 15-19 to 18.4 percent for women aged 35-39. About one-fifth of currently married women are in need (19.2 percent). Only 1.4 percent of never married

women are in need by our definition. Women who married before age 15 are in greater need, probably because of higher parity and socioeconomic characteristics associated with women marrying young. Need generally increases with parity, and more than 20 percent of women with four or more living children need services. When we look at socioeconomic characteristics rather than demographic characteristics, the proportion of women in need of services is from 4 to 9 times higher in each strata for women with less than primary education than for those with more than primary education. Also, the proportion of women in need is inversely correlated with family income with approximately 1 out of every 6 women living in households with an income less than one minimum salary in need of services.

These statistics indicate the segments of the population with the greatest need for family planning services. In order to derive program goals to serve the women defined as being in need, the numerators of the percents in Table 44 have been distributed across the categories of women as shown in Table 45. The distribution is strongly influenced by the distribution by residence of all women 15-44 (35 percent in Greater Recife and 65 percent in the Interior). However, because 71.6 percent of women in need reside in the Interior, the percent of women in need who live in the Interior is somewhat higher than the percent of women in the Interior of the State.

Women in need are distributed approximately evenly across age groups above ages 15-19 (14-24 percent). Ninety-four percent are married women. About half of women in need have had at least four live births, but lower parity women also contribute to the total in need: those with fewer than three children account for 40 percent of all women in need. Statewide and in the

Interior, most women in need of services have less than a primary education, and among women with known household income, 87 percent live in households with an income that is less than twice the minimum salary. This compares with 70 percent of households in this category in the Northeast as a whole. If the State Health Department wants to provide information and services to prevent unplanned pregnancies among those women not currently using contraception, it must concentrate on rural areas and low-income women who have limited or no access to services for geographic, informational and/or economic reasons.

In summary, 389,000 women have been estimated to be users of contraception in Pernambuco, and another 176,000 women have been categorized as having "unmet need" for family planning services. Of the 176,000 women needing to be served, 87 percent, or 153,000 women, are low-income (households earning less than twice the minimum salary). The results are clear and indicate the general magnitude of the problem that needs to be dealt with. The program needs to be focused on rural and/or low-income women, while making available permanent methods of contraception to high parity women as well as reversible methods for women of lower parity.

11. Community-Based Distribution Program

The community-based distribution (CBD) program in Pernambuco began in 1975 (Davies and Rodrigues, 1976; Gorosh et al, 1979). As Table 46 shows, 21.8 percent of married respondents in the State have had contact with the program at some time. This includes 7.5 percent who are active in the program, 5.5 percent who are currently using contraception from non-program sources, and 8.8 percent who are previous users and do not currently use contraception.

The 21.8 percent compares with 31.0 percent of married women registered in the program on a cumulative basis according to service statistics. However, this difference is not surprising in that women who have gone to more than one post and/or women dropping out of the program and returning after a completed pregnancy would have been counted twice in the service statistics.

Perhaps more important is the estimate of active users based on program statistics which show 7.9 percent (68,000) of married women in the State using oral contraceptives in July 1980. The survey estimate is 7.5 percent, very close to the program estimate. Overall, 6 out of every 10 oral contraceptive users obtain their supplies from the program, and this varies by residence in the direction expected: Grande Reciffe (47 percent), Interior-urban (60 percent) and Interior-rural (86 percent). It is important to note that a little more than 1 of every 3 women who have left the program are still using contraception, including 17 percent who have had tubal ligations.

Since 1976, 1 year following the start of the program, 20 percent of all sterilization users have had some program contact (sterilization is not a program method). Sterilization was the first method for 24 percent of sterilization users. Of current pill users in the CBD program, 36 percent started use outside the program and later switched to the program, and 56 percent of these women upgraded (in terms of efficacy) their method of contraception when switching from their first method to the program method.

Table 47 shows the reasons for not currently using contraception for women previously with the CBD program but not using contraception at the time of the survey. Of these women, 58.5 percent gave reasons related to pregnancies,

fecundity, or sexual activity. Fourteen percent were subfecund or not sexually active and not in need of contraception. Another 6 percent desired a current pregnancy, showing that they were in the CBD program to space children. Of the 38 percent either currently pregnant or postpartum, 51 percent desired their last pregnancy, indicating that about half were not program failures. More than half of the women giving other reasons for not using contraception complained about side effects of pill use. Now that other methods have been introduced into the program, these women can change methods without discontinuing program use.

Sixty-one percent of fecund married women in the State know about the CBD program with greatest knowledge among women residing in urban areas in the Interior (Table 48). Since most CBD posts are in the county seats (Sede do Municipio), this is not surprising. Otherwise, knowledge of the program is fairly uniform with the exception that the youngest and oldest women, women with the least or most education, and women at both ends of the income scale, all have less knowledge. The better educated, higher income women are generally from Recife and go to either INPS or private medical facilities. The least educated, lower income women generally reside in rural areas where only 55 percent of women indicated knowledge of the program. A greater proportion of working women (69 percent) than non-working women (60 percent) know about the program, but with only 131 working women in the sample, this difference is not statistically significant. The great majority of women (84.1 percent) found out about the program through friends, relatives, or neighbors (Table 49). Program agents (distributors, educators) were somewhat more important in the Interior and in rural areas.

All women (with the exception of those who were subfecund or had already had surgical contraception), users and non-users, were asked whether they were interested in receiving contraceptives from the community-based program in their community. In total, 41.4 percent of fecund married women said they would be interested in community-based distribution (Table 50). The percent interested did not vary much by characteristics of the women, although interest was somewhat higher among younger women and non-working women. Also, women with knowledge of the program expressed greater interest in the program (48 percent) than women without prior knowledge of the program (31 percent). Perhaps the most significant finding is that most women interested in the program (57 percent) prefer household delivery, which is not an option at the current time (Table 51).

For those not interested in receiving contraceptives through community distribution, about one-fifth (21.5 percent) stated that fear of side effects was the reason (Table 52). However, this is primarily a reason for not wanting contraception itself rather than an attitude toward community distribution. Lack of confidence in non-medical personnel was given by 22.9 percent as a reason; in Grande Recife this was even higher (27.8 percent). This latter reason is directly associated with community distribution.

Religious reasons, again reflecting attitudes toward contraception, not community distribution, were given by only 4 percent overall and were almost three times higher in the Interior (5.4 percent) than in Grande Recife (2.0 percent). Over 12 percent desired methods not currently available in the program. Only 4.8 percent stated they preferred a clinic or pharmacy in contrast to Sao Paulo where 20 percent of those not interested in community

distribution cited this reason, making it the most frequently mentioned one (Nakamura, 1979).

As shown in Table 53, lack of confidence in non-medical personnel was directly related to the education of women, and fear of side effects was inversely related to woman's educational level. Women with more than primary complete education were more likely to continue buying pills at the pharmacy or prefer rhythm or withdrawal as a method. Women with no education had trouble with specifying reasons--over one-fifth (22.1 percent) did not elaborate more than "does not want or like" the program, even with interviewer probing.

12. Use of Maternal-Child Health Services

Fifty-four percent of ever pregnant women received prenatal care during their most recent pregnancy (Table 54). The percentage receiving prenatal care was higher in Grande Recife (73.0 percent) than in the Interior (41.9 percent) and higher in urban areas than in rural areas. Of the women receiving prenatal care, about 45 percent of women in Grande Recife had attended social welfare clinics whereas the majority of women in the Interior had gone to state and local health facilities. Almost two-thirds of those women receiving prenatal care in Grande Recife (66.0 percent) received their first prenatal checkup during the first 3 months of pregnancy as compared to one-half (49.3 percent) of women in the Interior. Differences between urban and rural areas were greater. Almost 20 percent of women in the Interior and 26 percent of women in rural areas who received prenatal care did not have their first checkup until at least the seventh month of pregnancy.

Women who obtained prenatal care from a private doctor or private hospital were more likely to seek care during the first 3 months of pregnancy (73.2 percent) than were women who obtained care elsewhere (Table 55). Among women who obtained care at state or municipal hospitals, 18.9 percent did not obtain care until at least the seventh month of pregnancy as compared with only 3.5 percent of women who obtained care from a private doctor or private hospital.

Seventy-two percent of women with at least one live birth had their last delivery in a health facility (Table 56). However, in Grande Recife almost 90 percent had their last baby in a health facility compared with 61 percent in the Interior. The comparable percentages for urban and rural areas are 83 percent and 50 percent, respectively. Only 21.5 percent of women had a postpartum checkup following their last live birth; 31.6 percent in Grande Recife, 15.3 percent in the Interior, and only 10.5 percent in rural areas. Of women who obtained postpartum checkups, 63.1 percent did so less than 2 months following delivery.

Women were asked if their last birth was a vaginal or cesarean delivery (Table 57). Almost 17 percent of last deliveries were cesarean with the percentage twice as high in Recife (25.5 percent) as in the Interior (11.4 percent), and almost three times higher in urban areas (21.3 percent) than in rural areas (7.9 percent). However, when type of hospital is controlled, these differences largely disappear with the exception of births occurring in private hospitals. The rates of cesarean delivery are higher in Grande Recife and urban areas because home delivery is much less prevalent in these areas; urban areas have more private hospitals, and, as mentioned above, private hospitals

are more likely to perform cesarean deliveries than are other health facilities. Also, INPS hospitals have higher rates of cesarean delivery than do state and municipal hospitals, and INPS hospitals are relatively more common in urban areas, whereas state and municipal hospitals are relatively more common in rural areas. The higher a household's level of income is, even when controlling for type of health facility, the higher is the probability of a cesarean delivery (Table 58). Among women delivered at private hospitals with household income of two or more minimum salaries, two-thirds of deliveries are cesarean.

Over half (56.9) percent of women whose last baby was delivered abdominally report that the only reason for the cesarean delivery was medical indications (Table 59A). About half of these women (28.2 percent) had a concomitant sterilization. The remaining women reported sterilization as a reason for cesarian delivery. The health risks to women of unnecessary cesareans could be reduced if substituted by postpartum sterilization following vaginal delivery. The current practice in Brazil defines women as eligible for sterilization if they are classified as high risk during pregnancies or childbirth. Women are categorized as being at high risk if they have a history of cesarean deliveries (Nakamura, et al, 1981). This practice makes it easier for women with higher household incomes to be sterilized, since these women are more likely to have had a history of cesarean deliveries (Table 58). At private hospitals more than two-thirds of women undergoing cesarian deliveries for medical reasons had concomitant sterilization (Table 59B). Conversely, this pattern is not seen in the other places such as state/municipal hospitals or INPS hospitals. In addition, the private

institutions had the highest percentage of sterilization reported as the indication for cesarian deliveries, followed by INPS and state/municipal hospitals.

Women with at least one live birth were asked if they had taken their most recently born child to a health facility for medical care (Table 60). Forty percent of infants had been taken to a health facility for well-baby care with a higher percentage in Grande Recife (51.7 percent) receiving well-baby care than in the Interior (32.6 percent). In addition, infants in Grande Recife receiving well-baby care received it at an earlier age than those who had received well-baby care in the Interior. The source of well-baby care corresponds closely to previous tables on the source of general health care and prenatal care, with most women in Grande Recife going to social welfare clinics or private doctors, and most women in the Interior going to state and local health facilities.

Almost one-third of women who have had at least one live birth report that they have used no maternal and child health services; only 14.5 percent had used all three MCH services: prenatal, postpartum, and well-baby care (Table 61). Differences by region and residence show that the use of these maternal and child health care services is greater in Grande Recife than in the Interior and greater in urban than in rural areas. Women whose last baby was delivered at an INPS or private hospital were more likely to report that they had received prenatal, postpartum, and well-baby services and less likely to report that they had received none of these services than were women who delivered at a state or municipal hospital or at home (Table 62). More than half (56.7 percent) of women delivered by midwives had not received any MCH

services. This reflects the importance of providing such practitioners with fully detailed information and training on maternal-child health services stressing the importance of prenatal postpartum and well-baby services for women in the childbearing ages.

As might be expected, the percentage of women who use no maternal and child health services is negatively associated with education and income (Tables 63-64). Likewise, the percentage of women who use all MCH services is positively associated with education and income. Working status appears to have no effect on use of MCH services.

Women who received MCH services, including prenatal, postpartum, and well-baby care service, are more likely to report that they are currently contracepting than are women who did not receive MCH services (Table 65). When region or residence is controlled, these differences are generally reduced but are still substantial. Women whose last baby was delivered by a midwife are most likely to report that they are not contracepting (73.2 percent), followed by women delivering at state and municipal hospitals (57.3 percent), INPS hospitals (40.2 percent), and private hospitals (23.0 percent) (Table 66). Only 4.4 percent of women whose last baby was delivered by a midwife report that they have been sterilized compared with 19.4 percent of women delivering at state and municipal hospitals, 33.5 percent delivering at INPS, and 57.5 percent delivering at private hospitals. Sterilization is the most prevalent method for women who have had hospital deliveries. Overall, more than 80 percent of methods used by these women are the most effective methods (sterilization, pill, and IUD). For women with home deliveries assisted by a midwife, only 54 percent of those contracepting were using the most effective methods, and 37

percent were using rhythm or withdrawal compared with less than 15 percent of women using contraception who have had hospital deliveries. Also noteworthy is the fact that 71 percent of women who had home deliveries and are using oral contraceptives obtain their supplies from the community-based distribution program (not shown in Table).

13. Immunization Levels

In the survey, an evaluation of the immunization coverage of children less than 5 years of age was performed. Questions were asked on the number of doses of vaccine received against poliomyelitis, diphtheria-tetanus-pertussis (DPT), tuberculosis (BCG), and measles for each child living in sampled households. Since the first dose of the national polio campaign was given on June 14, we also had the opportunity to ask the source of the polio vaccine to evaluate the success of the first round of the campaign. Finally, it was asked whether vaccinated children in the house had a vaccination certificate or not. Thus, the data not only provided an estimate of coverage of the routine programs for immunization but also that of the first round of the national polio campaign in Pernambuco.

The Ministry of Health recommends the following scheme in order to achieve complete primary immunization: three doses of polio, starting the first at the second month of life with an interval of 2 months between the doses; two doses of DPT as described above; one dose of BCG to be given any time after birth; and one dose of measles vaccine after the sixth month of age (Fundação Serviços de Saúde Pública: Programa Nacional de Imunizações--Resultados observados em 1978. Boletim Epidemiológico 12 (23-24), Ministério da Saúde, 1979).

In Table 67, we can see that the levels of protection are low for all four diseases (Polio 24.9, DPT 28.5, BCG 29.9, and measles 26.6 percent). Also, it appears the children have been immunized later than the recommended schedule of completing primary immunization before 1 year of age. The largest increase in percent with complete immunization is from less than 1 year of age to 1 year of age. Although some increase is seen after 1 year of age, the percentage vaccinated levels off. It is also apparent that, in spite of the first round of the mass campaign taking place in June, the percentage of children with complete polio vaccine is comparable to the other vaccines.

Table 68 shows that children living in the urban areas or in Grande Recife are more likely to receive any vaccine than those living in rural or interior areas, respectively. For polio vaccine, this difference is almost 4-fold between urban and rural areas. Immunization coverage improves directly proportional with family income, which may be expected (Table 69). Additional detail is shown in Table 70: the individual number of doses received by children by specific age group for each region.

For all the vaccines shown here, a series should be completed by 1 year of age. However, as Table 71 shows, there are very low completion rates for all vaccines before the first year of age. Even if we consider that children would not be eligible to complete a primary series of either polio or DPT vaccine until 6 months of age, and only about one-half of the children would be "at risk" of receiving a complete vaccination, the percentages, if multiplied by two, would still only be 13.2 percent and 25.0 percent, respectively. Since children are eligible for measles vaccination at 7 months of age, again a maximum estimate of "eligible" children vaccinated would only be 8.0

percent. For BCG, infants may be vaccinated any time after birth, and only 10.7 percent of those less than 1 year of age received a BCG vaccination.

As mentioned previously, a national polio vaccine mass campaign was scheduled in June 1980 (the first dose) and August 1980 (the second dose). Thus, during this survey (July-August 1980), we could evaluate the improvement in vaccination coverage after the first round in June.

As shown in Table 72A, the mass campaign against poliomyelitis had increased the percent of children having had at least one dose of vaccine by 50.5 percentage points, from 40.8 percent to 91.3 percent, more than a 100 percent increase. The improvement was more dramatic for rural areas (63.5 percent) and the Interior (59.2 percent), and the gap between Recife and the Interior and urban and rural areas has narrowed considerably.

By looking at the children with no vaccination or a specific number of doses before the campaign, it is possible to measure the overall impact of the campaign (Table 72B). Fully 85.3 percent of unvaccinated children received a dose of polio vaccine in the first round with no significant differences by either region or residence. The same impact can be seen for children who had already had either 1, 2, or 3 doses of vaccine prior to the campaign.

It is apparent from these data that routine services have not adequately provided immunization services for children less than 5 years of age in Pernambuco. In addition, for those who have completed a primary series of vaccination, there are sharp residential and income differences. Significant improvement in polio vaccination levels were achieved through the mass

campaign and until primary health services can be upgraded to offer routine services at an acceptable level, which may be a longer term goal, mass campaigns will continue to be necessary.

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TABLE 1
 Interview Status by Residence
 Pernambuco State, Brazil, 1980

	<u>Total</u>	<u>Residence</u>	
		<u>Grande Recife</u>	<u>Interior</u>
<u>Household Selection</u>			
Total Households			
Number	3,005	1,500	1,505
Percent	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Eligible Respondent			
Identified	67.1	72.9	61.4
No Eligible Respondent	22.0	18.4	25.6
Vacant Household	8.0	5.9	10.0
Total Refusal	0.6	1.1	0.1
Resident Not Home	1.4	0.7	2.1
Other	0.9	0.9	0.8
<u>Individual Selection</u>			
Total Possible Respondents*			
Number	2,079	1,121	958
Percent	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Complete Interview	94.1	95.1	92.9
Resident Not Home	2.1	1.0	3.3
Total Refusal	0.9	1.5	0.2
Eligible Respondent			
Not Home	2.5	1.8	3.3
Eligible Respondent Refusal	0.4	0.6	0.2

* Includes households with identified eligible respondent plus households with total refusal or no contact which may have had an eligible respondent.

TABLE 2

Percent of Women by Age Group and Residence
1970 Census, 1976 Survey (Region 5) and 1980 Survey
Pernambuco State Brazil, 1980

	1970 Census*			1978 PNAD Survey**			1980 Survey		
	Pernambuco State			Pernambuco State			Pernambuco State		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
15-19	26.7	25.4	27.0	27.2	26.6	27.8	26.2	25.1	28.5
20-24	21.3	21.3	21.2	20.6	21.3	19.8	21.1	22.7	17.9
25-29	15.8	15.9	15.2	16.6	16.9	16.3	15.8	15.7	16.2
30-34	13.2	14.1	12.8	13.4	13.7	13.1	12.3	12.1	12.8
35-39	12.7	12.2	12.0	12.1	11.7	12.6	12.9	11.7	15.3
40-44	10.8	11.0	10.4	10.1	9.8	10.5	11.6	12.6	9.6
15-44	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Fundação Instituto Brasileiro de Geografia e Estatística: Censo Demográfico de 1970. Pernambuco: Vol 1-Tomo X, Rio de Janeiro, dezembro de 1972.

**Fundação Instituto Brasileiro de Geografia e Estatística: Pesquisa Nacional por Amostra de Domicílios, 1978. Região V: Vol 3-Tomo 5, Rio de Janeiro, abril de 1980.

TABLE 3

Percent of Women in Marital Union by Age, and Percent Distribution
of Women 15-44 by Marital Status, by Residence
Pernambuco State, Brazil, 1970, 1978 and 1980

A. <u>Percent in Union</u>	1970 Census			1978	1980		
	Age Group	Total	Urban	Rural	PNAD Survey Total	Family Planning/MCH Survey	
						Total	Grande Recife
15-19	10.6	2.6	12.0	14.0	15.3	10.9	18.6
20-24	42.4	38.2	48.3	47.4	48.4	44.3	51.5
25-29	65.3	61.2	71.3	68.6	66.1	61.2	69.6
30-34	71.5	70.3	79.9	} 77.5	80.7	78.5	82.3
35-39	76.5	72.0	82.9		79.0	83.9	76.3
40-44	73.0	68.6	79.6	77.4	77.5	79.6	76.1
15-44	49.6	46.7	53.9	54.0*	53.8	50.7	56.1
B. <u>Marital Status</u>							
Married	42.8	39.4	47.7	45.4	42.3	39.3	44.4
Consensual Union	6.8	7.3	6.2	8.6	11.6	11.4	11.7
Sep/Wid/ Div	5.9	7.1	4.2	6.9	5.6	4.7	6.1
Never Married	44.5	46.2	42.0	39.1	40.6	44.6	37.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Women 15-49 years of age

TABLE 4

Percentage Distribution of Births in Most Recent Year
by Age of Mother and Residence, 1976 Survey Northeast Brazil,
1980 Survey Pernambuco State

<u>Age of Mother</u>	<u>Percent of Births</u>		
	<u>Total</u>	<u>Urban</u>	<u>Rural</u>
1976 Survey, Northeast Brazil* (Region 5)			
15-19	10.7	10.8	10.4
20-24	26.2	27.7	25.2
25-29	24.6	25.4	24.0
30-34	19.5	19.3	19.5
35-39	13.6	12.1	14.6
40-44	<u>5.6</u>	<u>4.7</u>	<u>6.2</u>
15-44	100.0	100.0	100.0
1980 Survey, Pernambuco State			
15-19	12.3	12.9	11.6
20-24	27.7	32.3	21.7
25-29	22.2	20.6	24.3
30-34	16.4	16.3	16.5
35-39	14.6	12.3	17.6
40-44	<u>6.8</u>	<u>5.7</u>	<u>8.2</u>
15-44	100.0	100.0	100.0

*Fundação Instituto Brasileiro de Geografia e Estatística: Pesquisa Nacional por Amostra de Domicílios, 1976. Região V: Vol 1-Tomo 5, Rio de Janeiro, 1978.

TABLE 6

Mean Number of Children Born Alive
by Residence and Mother's Education by Age
and Duration Since First Marital Union
Pernambuco State, Brazil, 1980

<u>Age Group</u>	<u>Total</u>	<u>Residence</u>		<u>Education</u>		
		<u>Recife</u>	<u>Interior</u>	<u><Primary Complete</u>	<u>Primary Complete</u>	<u>>Primary Complete</u>
15-19	0.2	0.1	0.2	0.3	0.2	0.1
20-24	1.0	0.9	1.1	1.8	1.0	0.5
25-29	2.3	1.8	2.8	3.2	2.3	1.1
30-34	4.3	3.2	5.1	5.1	3.4	2.2
35-39	5.5	4.3	6.1	6.1	5.5	2.6
40-44	<u>6.4</u>	<u>5.1</u>	<u>7.3</u>	<u>6.9</u>	<u>6.3</u>	<u>3.7</u>
15-44	2.6	2.0	3.1	3.8	2.4	0.8
<u>Marriage Duration*</u>						
Never Married	0.2	0.1	0.3	0.5	0.1	0.0
<5 Years	1.3	1.3	1.3	1.5	1.3	1.0
5-9 Years	2.9	2.8	3.0	3.3	2.8	2.2
10-14 Years	5.2	3.9	6.0	5.6	4.9	3.5
15+ Years	<u>7.1</u>	<u>5.7</u>	<u>7.9</u>	<u>7.7</u>	<u>6.5</u>	<u>4.2</u>
All Durations	2.6	2.0	3.1	3.8	2.4	0.8

*Excludes 41 cases with unknown marriage date.

TABLE 8

Mean Number of Children Born Alive
by Age Group and Residence: Observed (Pi) and
Expected (Fi) given Birth Rates in the Previous 12 Months,
Pernambuco State, Brazil, 1930

All Births

<u>Age Group</u>	<u>Total</u>			<u>Recife</u>			<u>Interior</u>		
	<u>Pi</u>	<u>Fi</u>	<u>Pi/Fi</u>	<u>Pi</u>	<u>Fi</u>	<u>Pi/Fi</u>	<u>Pi</u>	<u>Fi</u>	<u>Pi/Fi</u>
15-19	.19	.16	1.18	.13	.18	.70	.24	.15	1.61
20-24	1.04	.96	1.09	.91	.82	1.12	1.13	1.07	1.06
25-29	2.35	2.05	1.14	1.76	1.76	1.00	1.77	2.29	1.21
30-34	4.27	3.11	1.37	3.16	2.74	1.15	5.11	3.41	1.50
35-39	5.50	4.02	1.37	4.32	3.45	1.25	6.12	4.43	1.38
40-44	6.41	4.61	1.39	5.10	3.77	1.35	7.30	5.18	1.41
Average Ratio (Excluding 15-19)			1.27			1.17			1.31

TABLE 10

Mean Number of Reported Pregnancies by
Residence and Education, by Age Group and Reported Abortions as a
Percent of Pregnancies
Pernambuco State, Brazil, 1980

	<u>Total</u>	<u>Residence</u>				<u>Education</u>		
		<u>Recife</u>	<u>Interior</u>	<u>Urban</u>	<u>Rural</u>	<u><Primary Complete</u>	<u>Primary Complete</u>	<u>>Primary Complete</u>
Total Pregnancies								
15-19	0.3	0.2	0.3	0.2	0.3	0.4	0.4	0.1
20-24	1.3	1.2	1.4	1.2	1.6	2.1	1.3	0.7
25-29	2.9	2.3	3.3	2.5	3.6	3.9	2.8	1.4
30-34	5.0	3.7	6.0	4.2	6.6	6.0	3.9	2.6
35-39	6.5	5.6	6.9	5.7	7.8	7.2	6.5	3.0
40-44	<u>7.6</u>	<u>6.3</u>	<u>8.5</u>	<u>7.6</u>	<u>7.8</u>	<u>8.4</u>	<u>6.9</u>	<u>4.1</u>
15-44	3.1	2.5	3.6	2.8	3.7	4.6	2.9	1.0
Abortion (Spontaneous & Induced) as a Percent of Pregnancies								
15-19	7.2	10.0	6.2	8.3	5.5	10.5	0	6.8
20-24	8.3	11.3	6.4	10.3	4.7	5.4	9.3	14.6
25-29	12.0	17.7	9.0	13.9	9.4	12.5	11.3	10.8
30-34	11.4	11.2	11.6	10.7	12.3	11.7	9.9	10.8
35-39	12.2	20.4	8.7	15.3	8.0	12.1	12.5	12.4
40-44	<u>12.8</u>	<u>17.7</u>	<u>10.4</u>	<u>13.7</u>	<u>10.3</u>	<u>16.3</u>	<u>8.5</u>	<u>9.0</u>
15-44	11.7	16.3	9.5	13.3	9.3	12.2	10.2	11.3

TABLE 11

Percent of Women Aged 15-44 Who Reported at Least One Abortion,
Spontaneous or Induced, by Marital Status and by Region and Residence,
Pernambuco State Brazil, 1980

<u>Current Marital Status*</u>	<u>Total**</u>	<u>Region</u>		<u>Residence</u>	
		<u>Grande Recife</u>	<u>Interior</u>	<u>Urban</u>	<u>Rural</u>
Married	33.1 (1,254)	34.0 (674)	32.6 (580)	33.2 (887)	33.0 (367)
Widowed/Divorced/Separated	27.0 (104)	38.5 (51)	20.8 (53)	27.5 (78)	25.5 (26)
Never Married	3.3 (592)	2.7 (338)	3.8 (254)	2.6 (439)	5.0 (153)
Total	20.7 (1,950)	20.2(1,063)	21.0 (887)	20.1(1,404)	21.3 (546)

*In this and all subsequent tables the currently married category includes women living in stable consensual unions.

**Excludes 6 women with unknown abortion information.

(Figures in parentheses are the unweighted numbers of cases.)

TABLE 12

Percent of Currently Married Women Aged 15-44 Who Report at Least One Abortion, Spontaneous or Induced, by Region and Selected Characteristics Pernambuco State, Brazil, 1980

<u>Characteristics</u>	<u>Total*</u>	<u>Region</u>	
		<u>Grande Recife</u>	<u>Interior</u>
Total	33.2 (1,254)	34.0 (674)	32.6 (580)
<u>Age Group</u>			
15-19	5.6 (89)	6.1 (38)	5.4 (51)
20-24	16.2 (258)	21.0 (137)	13.0 (121)
25-29	31.9 (268)	32.9 (147)	31.3 (121)
30-34	40.6 (247)	30.5 (144)	47.8 (103)
35-39	41.3 (216)	47.0 (111)	38.0 (105)
40-44	48.6 (176)	48.7 (97)	48.6 (79)
<u>Years Since First Marriage</u>			
0-4	13.4 (380)	19.2 (214)	9.1 (166)
5-9	28.3 (287)	30.9 (158)	26.7 (129)
10-14	39.8 (242)	38.4 (128)	40.7 (114)
15-19	40.4 (169)	37.6 (80)	41.8 (89)
20+	57.7 (139)	56.9 (74)	58.2 (65)
<u>Age at Marriage</u>			
<15	41.9 (116)	49.3 (51)	38.2 (65)
15-19	30.5 (527)	30.0 (264)	30.8 (263)
20-24	33.0 (375)	33.8 (224)	32.4 (151)
25+	30.4 (197)	33.8 (115)	27.8 (82)
<u>Education</u>			
None	39.3 (357)	46.0 (116)	37.6 (241)
<Primary Complete	38.7 (328)	43.4 (143)	36.7 (185)
Primary Complete	26.8 (254)	37.1 (155)	17.7 (99)
>Primary Complete	22.2 (315)	21.4 (260)	34.2 (55)
<u>Current Work Status</u>			
Working	31.9 (195)	37.3 (92)	29.4 (103)
Not Working	33.4 (1,059)	33.4 (582)	33.4 (477)
<u>Household Income</u>			
<1 MW** or Goods Only	32.3 (315)	41.0 (86)	30.6 (229)
1 MW	36.6 (246)	39.5 (138)	34.7 (108)
2-4 MW	39.7 (202)	44.6 (140)	34.2 (62)
>5 MW	23.3 (103)	25.2 (84)	*** (19)

*Excludes 2 women with missing abortion data.

**MW = Minimum Wages

***<25 Cases

Note: 1) Income in this and all subsequent tables will be in terms of multiples of minimum wages. At the time of the survey the minimum wage was U.S. \$60.38 for Interior Pernambuco and \$64.91 for Grande Recife. The 39% of women who did not know at least some segment of their household income are excluded from this and all other tables which include income information.

2) Figures in parentheses are unweighted numbers of women. For some characteristics the sum of women may not match the total because of the exclusion of women with unknown information.

TABLE 13

Percent of Women Aged 15-44 Who Had Complications,
Received Medical Attention, or Were Hospitalized
for Their Most Recent Abortion, Induced or Spontaneous, by Residence
Pernambuco State, Brazil, 1980

<u>Residence</u>	<u>% With Any Abortions Reporting Complications</u>	<u>% Receiving Medical Treatment</u>	<u>% Hospitalized</u>	<u>Unweighted Number of Cases*</u>
Total	44.3	40.4	32.7	(404)
Grande Recife	41.8	38.3	35.2	(222)
Interior	47.0	41.8	31.0	(182)
Urban	42.2	38.4	35.5	(282)
Rural	50.0	44.3	31.1	(122)

*Includes only women reporting any abortions.

TABLE 14

Place of Treatment for Women Receiving Medical Treatment
Following Most Recent Abortion, by Region
Pernambuco State, Brazil, 1980
(Percent Distribution)

<u>Place of Treatment</u>	<u>Total</u>	<u>Region</u>	
		<u>Grande Recife</u>	<u>Interior</u>
General or Maternity Hospital	59.6	48.6	66.3
Health Post or Center	3.8	0.9	5.6
INPS	21.2	33.9	13.5
Private Hospital or Doctor	9.8	12.8	7.9
Other	5.6	3.7	6.7
Total	100.0	100.0	100.0
Number of Cases (Unweighted)	(170)	(91)	(79)

TABLE 15

Planning Status of Most Recent Pregnancy by Region, Age, Age of First Marriage, Parity, Education, Current Work Status, and Income for Currently Married Women Aged 15-44 Pernambuco State, Brazil, 1980 (Percent Distribution)

<u>Characteristics</u>	<u>Total</u>	<u>Planning Status</u>				<u>No. of Cases (Unweighted)</u>
		<u>Planned</u>	<u>Mistimed</u>	<u>Unwanted</u>	<u>Unknown</u>	
TOTAL	100.0	50.8	17.0	27.2	6.0	(1184)
<u>Region</u>						
Grande Recife	100.0	53.7	15.0	27.4	4.6	(632)
Interior	100.0	49.4	18.3	25.4	6.9	(552)
<u>Age Group</u>						
15-19	100.0	76.7	14.3	6.0	3.0	(73)
20-24	100.0	57.7	22.2	15.4	4.7	(244)
25-29	100.0	48.7	24.8	20.4	6.2	(247)
30-34	100.0	47.2	15.8	30.2	6.8	(240)
35-39	100.0	48.7	11.3	32.3	7.8	(210)
40-44	100.0	42.1	11.9	40.6	5.4	(170)
<u>Age at First Marriage</u>						
<15	100.0	34.7	19.7	38.9	7.8	(111)
15-19	100.0	53.6	12.8	27.3	6.3	(509)
20-24	100.0	51.3	21.2	21.2	6.4	(356)
25+	100.0	54.0	20.8	22.3	2.9	(170)
<u>Parity</u>						
0	100.0	96.1	9.7	0.0	4.2	(48)
1	100.0	79.7	14.7	4.5	1.1	(214)
2	100.0	60.0	22.9	12.9	4.3	(227)
3	100.0	41.5	25.6	30.6	2.3	(173)
4	100.0	52.3	14.0	24.4	9.3	(109)
5	100.0	38.1	15.5	35.5	11.0	(88)
6+	100.0	32.6	13.2	44.5	9.0	(325)
<u>Education</u>						
None	100.0	42.6	16.0	29.4	12.1	(342)
<Complete Primary	100.0	50.9	16.1	29.9	3.1	(309)
Complete Primary	100.0	52.6	17.5	25.2	4.8	(244)
>Complete Primary	100.0	62.0	19.6	16.6	1.7	(289)
<u>Working Status</u>						
Working	100.0	53.0	19.2	23.4	4.4	(176)
Not Working	100.0	50.4	16.6	26.7	6.3	(1008)
<u>Income</u>						
<1 Minimum Wage (MW) or goods only	100.0	50.3	18.6	23.6	7.6	(304)
≥1 MW and <2 MW	100.0	44.8	16.2	32.0	7.0	(234)
>2 MW and <5 MW	100.0	51.8	14.7	30.8	2.7	(189)
>5 MW	100.0	56.8	26.9	16.3	0.0	(93)

TABLE 17

Current Pregnancy Intention of Currently Married Women Aged 15-44
by Region, Age, Parity, Education, Current Work Status, and Household Income
Pernambuco State, Brazil, 1980
(Percent Distribution)

<u>Characteristics</u>	<u>Total</u>	<u>Current Pregnancy Intention</u>			
		<u>Currently Pregnant</u>	<u>Desire Pregnancy</u>	<u>Do not Desire Pregnancy</u>	<u>Undecided</u>
Total	100.0 (1258)	15.1	10.7	70.4	3.8
<u>Region</u>					
Grande Recife	100.0 (676)	13.0	10.6	75.2	1.2
Interior	100.0 (582)	16.4	10.8	67.3	5.5
<u>Age Group</u>					
15-19	100.0 (89)	26.1	21.1	47.8	5.0
20-24	100.0 (260)	26.3	17.8	53.5	2.4
25-29	100.0 (268)	14.8	11.4	70.2	3.6
30-34	100.0 (249)	14.3	7.2	74.2	4.3
35-39	100.0 (216)	8.8	5.9	80.2	5.1
40-44	100.0 (176)	5.8	6.6	84.5	3.0
<u>Parity</u>					
0	100.0 (122)	38.8	45.5	20.7	5.1
1	100.0 (214)	28.6	17.2	60.3	4.0
2	100.0 (227)	12.9	8.6	77.2	1.4
3	100.0 (173)	10.5	5.4	82.1	1.9
4	100.0 (109)	16.8	4.7	73.5	5.2
5	100.0 (88)	6.5	0.0	86.4	7.1
6+	100.0 (325)	13.6	4.5	78.0	4.1
<u>Education</u>					
None	100.0 (359)	15.9	8.5	68.6	7.1
<Primary Complete	100.0 (328)	15.2	12.3	69.0	3.6
Primary Complete	100.0 (254)	14.7	9.8	73.8	1.6
>Primary Complete	100.0 (317)	14.0	13.0	71.9	1.1
<u>Working Status</u>					
Working	100.0 (195)	9.5	10.5	73.5	6.5
Not Working	100.0 (1063)	16.2	10.8	69.8	3.2
<u>Monthly Household Income</u>					
<1 Minimum Wage (MW) Goods Only	100.0 (317)	15.2	11.2	67.5	6.1
1 MW	100.0 (246)	17.6	8.0	69.2	5.3
2-4 MW	100.0 (203)	11.8	10.6	74.5	3.1
5+ MW	100.0 (103)	13.2	12.0	72.9	1.9

Figures in parenthesis are unweighted numbers of cases.

TABLE 18

Percentage of Women Aged 15-44 Currently Using Contraception*
 For Selected Denominators, by Region and Residence,
 Pernambuco State, Brazil, 1980

<u>Denominator Used</u>	<u>Total</u>	<u>Region</u>		<u>Residence</u>	
		<u>Grande Recife</u>	<u>Interior</u>	<u>Urban</u>	<u>Rural</u>
All Women	24.3(1958)	23.3(1068)	21.5(890)	28.0(1408)	16.6(550)
Ever Married or in Union	39.3(1364)	48.7(729)	33.3(635)	45.6(968)	26.7(396)
Currently Married or in Union	41.4(1259)	51.5(677)	35.0(582)	48.3(889)	28.3(370)
"Exposed" Currently Married or in Union**	56.2(921)	69.6(500)	47.6(421)	64.6(659)	39.6(262)

*Users of ineffective methods (douche, teas, etc.) are categorized as non-users
 **Excludes subfecund and currently pregnant women.

NOTE: Figures in parenthesis are unweighted numbers of cases.

TABLE 19

Currently Married Women Aged 15-44 Currently Using Contraception, by Region and Method Used, and Percent Distribution of Types of Methods Currently Used Pernambuco State, Brazil, 1980

<u>Current Use and Methods</u>	<u>All Currently Married Women</u>			<u>Current Contraceptive Users</u>		
	<u>Total</u>	<u>Grande Recife</u>	<u>Interior</u>	<u>Total</u>	<u>Grande Recife</u>	<u>Interior</u>
<u>Currently Using</u>	<u>41.4</u>	<u>51.5</u>	<u>35.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Sterilization	18.9	29.8	12.3	45.7	56.9	35.2
Orals	12.5	13.4	12.6	30.3	24.7	36.1
Withdrawal	3.6	1.7	4.9	8.7	3.2	13.9
Rhythm	3.5	3.9	3.2	8.4	7.6	9.1
Vaginal Methods	1.7	2.6	1.1	4.0	5.1	3.0
IUD	0.6	0.9	0.3	1.3	1.8	0.9
Condoms	0.6	0.7	0.6	1.6	1.4	1.7
<u>Not Currently Using*</u>	<u>58.6</u>	<u>48.5</u>	<u>65.0</u>	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0
No. of Cases (Unweighted)	(1259)	(677)	(582)	(534)	(338)	(196)

*Includes five women using other, non-effective methods (douche, herbs, etc.)

TABLE 22

Demographic Profile of Sterilized, Currently Married Women Aged 15-44
Pernambuco State, Brazil, 1980

Age Group	% Distributions at:		Currently Married Survey Population
	Time Sterilized	Time of Survey	
15-19	0.0	0.0	7.5
20-24	11.5	8.1	19.0
25-29	26.3	12.4	19.4
30-34	30.0	29.3	18.5
35-39	23.1	27.1	18.9
40-44	8.6	25.1	16.7
Total	100.0	100.0	100.0
No. of Cases (Unweighted)	(239)	(252)	(1364)
<u>Mean Age :</u>	31.1	34.6	
<u>No. of Living Children</u>			
0		0.5	9.1
1		4.9	16.4
2		15.9	16.2
3		22.2	11.9
4		19.3	8.9
5		12.0	7.2
6+		25.4	30.3
Mean No. of Living Children :		3.9	
<u>Region and Residence</u>			
Grande Recife		60.3	39.0
Interior		39.7	61.0
Urban		85.8	65.6
Rural		14.2	34.4
<u>Education</u>			
None		17.8	31.2
Complete Primary		23.2	28.3
Complete Primary		28.8	19.8
> Complete Primary		30.2	20.7
<u>Household Income</u>			
<1 Minimum Wage (MW) or Goods Only		11.0	28.1
>1 MW and <2 MW		16.8	18.5
>2 MW and <4 MW		24.6	14.8
>5 MW		15.6	7.3

TABLE 23

Year of Sterilization, by Region.
 Currently Married Women Aged 15-44
 Pernambuco State Brazil, 1980
 (Percent Distribution)

<u>Year of Sterilization</u>	<u>Total</u>	<u>Region</u>	
		<u>Grande Recife</u>	<u>Interior</u>
Before 1971	9.0	10.9	6.2
1971	3.2	3.6	2.5
1972	2.9	3.4	3.7
1973	3.4	4.0	2.5
1974	7.1	7.7	6.2
1975	9.0	6.9	12.4
1971-1975	25.6	24.6	27.2
1976	9.8	11.3	7.4
1977	11.5	12.5	9.9
1978	16.8	15.7	18.5
1979	17.13	15.7	19.8
1980	9.5	9.3	9.9
1976-1980	64.9	64.5	65.4
Unknown	0.5	0.0	1.2
Total	100.0 (252)	100.0 (189)	100.0 (63)

Note: Numbers in parentheses are unweighted numbers of cases.

TABLE 24

Year of Sterilization Relative to Year of Last Live Birth,
by Region, Age, and Year of Sterilization,
for Currently Married Women Aged 15-44
Pernambuco State, Brazil, 1980
(Percent Distribution)

<u>Characteristics</u>	<u>Total</u>	<u>Year Sterilized Relative to Year of Last Live Birth</u>			<u>Number of Cases*</u> <u>(Unweighted)</u>
		<u>During Same</u> <u>Calendar Year</u>	<u>1-2 Years</u> <u>After</u>	<u>3 or More</u> <u>Years After</u>	
Total	100.0	75.9	11.7	12.4	(248)
<u>Region</u>					
Grande Recife	100.0	76.8	11.0	12.2	(187)
Interior	100.0	74.4	12.8	12.8	(61)
<u>Age Group</u>					
15-24	100.0	**	**	**	(17)
25-29	100.0	72.5	21.6	5.9	(39)
30-34	100.0	83.3	11.7	5.0	(85)
35-39	100.0	80.0	4.8	15.3	(58)
40-44	100.0	63.4	11.9	24.7	(49)
<u>Year of Sterilization</u>					
1963 -1975	100.0	78.2	9.2	12.7	(85)
1976-1980	100.0	74.6	13.1	12.3	(163)

*Excludes 4 women with unknown year of sterilization.

**<25 cases.

TABLE 25

Currently Married Women Aged 15-44 Currently Using Contraception,
by Education and Method Used
Pernambuco State, Brazil, 1980
(Percent Distribution)

<u>Current Use and Method</u>	<u>Total</u>	<u>Education</u>			
		<u>None</u>	<u><Primary Complete</u>	<u>Primary Complete</u>	<u>>Primary Complete</u>
<u>Currently Using</u>	<u>41.4</u>	<u>27.8</u>	<u>36.6</u>	<u>40.2</u>	<u>60.1</u>
Sterilization	18.9	10.8	15.5	27.5	27.7
Orals	12.5	7.7	12.6	14.7	17.7
Withdrawal	3.6	5.6	3.4	3.3	1.1
Rhythm	3.5	2.5	3.1	2.1	6.7
Condoms	1.7	0.0	0.7	0.7	1.6
Vaginal Methods	0.5	0.2	1.1	1.9	4.5
IUD	0.6	1.0	0.2	0.0	0.9
<u>Not Currently Using*</u>	<u>58.6</u>	<u>72.2</u>	<u>63.4</u>	<u>49.8</u>	<u>39.9</u>
Total	100.0	100.0	100.0	100.0	100.0
No. of Cases (Unweighted)	(1259)	(259)	(328)	(254)	(317)

*Includes five women using other ineffective methods (douche, herbs, etc.)

TABLE 2.6

Percent of Currently Married Women Aged 15-44
Currently Using Contraception, by Monthly Income
and Method Used
Pernambuco State, Brazil, 1980

<u>Use and Current Method</u>	<u>Total</u>	<u>Monthly Household Income</u>			
		<u><1 MW*</u> <u>or Payment</u> <u>in Goods</u>	<u>>1 MW</u> <u>and</u> <u><2 MW</u>	<u>>2 MW</u> <u>and</u> <u><5 MW</u>	<u>>5 MW</u>
<u>Currently Using</u>	<u>41.4</u>	<u>28.2</u>	<u>32.4</u>	<u>46.5</u>	<u>62.9</u>
Sterilization	18.9	9.1	12.9	22.9	40.2
Orals	12.5	8.0	10.6	13.0	16.4
Withdrawal	3.6	4.7	6.1	2.1	0.0
Rhythm	3.5	2.1	2.1	4.8	2.5
Vaginal Method	1.7	0.9	0.2	2.7	2.5
Condoms	0.7	0.3	0.2	0.9	1.3
IUD	0.6	1.2	0.2	0.2	0.0
<u>Not Currently Using**</u>	<u>58.6</u>	<u>73.8</u>	<u>67.6</u>	<u>53.5</u>	<u>37.1</u>
Total	100.0	100.0	100.0	100.0	100.0
Number of Cases (Unweighted)	(1,259)***	(189)	(266)	(311)	(103)

*MW = Minimum Wage

**Includes 5 women using other, ineffective methods (douche, herbs, etc.).

***Includes 390 women with unknown household income.

TABLE 2.8

Currently Married Women Aged 15-44 Currently Using Contraception,
by Region and Residence, by Age,
Education, Current Work Status, and Household Income
Pernambuco State, Brazil, 1980
(Percent Distribution)

Characteristics	Total	Region		Residence	
		Grande Recife	Interior	Urban	Rural
<u>Age Group</u>					
15-19	21.1 (89)	24.5 (38)	19.6 (51)	22.4 (58)	19.0 (31)
20-24	33.6 (260)	38.0 (138)	30.6 (122)	39.4 (193)	30.4 (67)
25-29	42.4 (268)	53.7 (147)	35.2 (121)	46.9 (184)	34.8 (84)
30-34	49.7 (250)	63.7 (146)	39.7 (104)	57.6 (181)	34.8 (69)
35-39	45.2 (216)	57.6 (111)	38.0 (105)	51.9 (143)	34.0 (73)
40-44	44.7 (176)	52.6 (95)	29.0 (79)	56.2 (130)	16.3 (46)
<u>Education</u>					
None	27.8 (359)	38.8 (116)	25.0 (243)	34.9 (191)	21.3 (168)
<Complete Primary	36.6 (328)	39.5 (143)	35.8 (185)	41.6 (208)	29.5 (120)
Complete Primary	50.2 (254)	57.9 (155)	43.4 (99)	53.9 (204)	38.0 (50)
>Complete Primary	60.0 (317)	60.2 (262)	59.7 (55)	60.4 (285)	56.0 (32)
<u>Current Work Status</u>					
Working	42.9 (195)	56.8 (92)	36.5 (103)	53.8 (127)	26.5 (68)
Not Working	41.1(1064)	50.6 (585)	35.6 (479)	47.3 (762)	28.7 (302)
<u>Income</u>					
<1 Minimum Wage (MW) or Goods only	26.2 (189)	28.7 (87)	25.2 (102)	27.0 (92)	25.8 (97)
>1 MW and <2 MW	36.6 (246)	43.3 (138)	26.1 (128)	34.6 (177)	29.3 (89)
>2 MW and <5 MW	57.3 (311)	60.4 (141)	40.4 (170)	55.5 (230)	24.5 (81)
>5 MW	62.9 (103)	63.5 (34)	* (19)	65.7 (93)	* (10)

*<25 cases

NOTE: Figures in parenthesis are unweighted numbers of cases

TABLE 29

Currently Married Women Aged 15-44 Currently Using Contraception,
by Education, by Age, Region,
Current Work Status, and Household Income
Pernambuco State, Brazil, 1980
(Percent Distribution)

Characteristics	Total	Education			
		None	<Complete Primary	Complete Primary	>Complete Primary
<u>Age Group</u>					
15-19	21.1 (89)	26.8 (25)	* (18)	* (18)	29.2 (26)
20-24	33.6 (260)	17.5 (54)	31.5 (54)	40.0 (54)	43.2 (97)
25-29	42.4 (268)	27.0 (69)	29.8 (62)	47.7 (66)	68.7 (77)
30-34	49.7 (249)	34.0 (69)	44.9 (43)	67.2 (43)	73.0 (58)
35-39	45.2 (216)	32.4 (61)	47.1 (40)	49.4 (40)	73.2 (37)
40-44	44.7 (176)	26.7 (50)	37.8 (37)	67.1 (37)	* (22)
<u>Region</u>					
Recife	51.5 (676)	38.8 (116)	38.5 (143)	57.9 (155)	60.8 (262)
Interior	35.0 (582)	25.0 (243)	35.8 (185)	43.4 (99)	59.7 (55)
<u>Work Status</u>					
Working	42.2 (195)	20.3 (59)	50.5 (45)	47.2 (34)	67.1 (57)
Not Working	41.1 (1063)	29.6 (300)	34.1 (283)	50.8 (220)	58.5 (260)
<u>Income</u>					
<1 Minimum Wage (MW) or Goods Only	26.2 (189)	28.8 (84)	19.5 (55)	31.0 (33)	* (17)
>1 MW and <2 MW	36.6 (246)	27.1 (100)	41.7 (76)	38.4 (61)	37.5 (29)
>2 MW and <5 MW	57.3 (311)	28.4 (79)	50.7 (67)	56.2 (67)	58.1 (98)
>5 MW	62.9 (103)	* (3)	* (14)	* (13)	64.4 (73)

*<25 cases.

NOTE: Figures in parenthesis are unweighted numbers of cases.

TABLE 32

Average Time (in Minutes) to Source of Contraception, by
 Current Contraceptive Status and Region/Residence, Currently
 Married Women Aged 15-44 Who Know Where to Obtain Contraception
 Pernambuco State, Brazil, 1980

<u>Contraceptive Status</u>	<u>Total</u>	<u>Region</u>		<u>Residence</u>	
		<u>Grande Recife</u>	<u>Interior</u>	<u>Urban</u>	<u>Rural</u>
Total	35.7	30.2	39.7	25.1	64.0
Currently Using	33.1	29.9	36.5	25.3	68.7
Not Using	39.1	31.0	42.6	24.8	61.2
Number of Cases (Unweighted)	(740)	(425)	(315)	(562)	(178)

TABLE 33

Time to Get to Source of Contraception, by Whether
Currently Using Contraception, Region, and Residence,
Pernambuco State, Brazil, 1980
(Percent Distribution.)

<u>Contraceptive Status, Region and Residence</u>	<u>Total</u>	<u>Time to Get to Source of Contraception</u>				<u>No. of Cases (Unweighted)</u>
		<u>1-15 Minutes</u>	<u>16-30 Minutes</u>	<u>>30 Minutes</u>	<u>Unknown</u>	
<u>All Contraceptive Statuses</u>						
<u>Total</u>	100.0	41.3	30.0	24.4	4.4	(701)
Grande Recife	100.0	39.8	34.5	19.6	6.0	(417)
Interior	100.0	42.4	26.4	28.2	3.0	(284)
Urban	100.0	51.3	29.4	14.8	4.5	(543)
Rural	100.0	11.9	31.7	52.5	4.0	(158)
<u>Current Users of Contraception</u>						
<u>Total</u>	100.0	42.1	31.2	22.2	4.5	(449)
Grande Recife	100.0	39.5	36.4	19.6	4.4	(300)
Interior	100.0	44.9	25.6	25.0	4.6	(149)
Urban	100.0	48.8	32.8	14.6	3.8	(368)
Rural	100.0	13.0	24.6	55.1	7.3	(81)
<u>Non-users of Contraception</u>						
<u>Total</u>	100.0	39.9	27.9	28.0	4.2	(252)
Grande Recife	100.0	40.6	29.4	19.6	10.5	(117)
Interior	100.0	39.6	27.3	31.8	1.3	(135)
Urban	100.0	56.7	22.4	15.0	5.9	(175)
Rural	100.0	10.9	37.6	50.3	1.2	(77)

TABLE 34

Reasons for Not Currently Using Contraception,
by Region and Residence, Currently Married Women Aged 15-44
Pernambuco State, Brazil, 1980
(Percent Distribution)

<u>Reasons for Non-Use</u>	<u>Total</u>	<u>Region</u>		<u>Residence</u>	
		<u>Grande Recife</u>	<u>Interior</u>	<u>Urban</u>	<u>Rural</u>
<u>Reasons Related to Pregnancy, Fecundity, & Sexual Activity</u>					
Currently Pregnant	24.5	26.5	23.6	25.8	22.9
Desires Pregnancy	10.1	9.7	10.3	12.5	6.8
Postpartum/Breastfeeding	5.1	5.6	4.9	5.3	4.9
Menopause/Subfecund	14.8	22.4	11.2	18.7	9.6
Not Sexually Active	3.6	2.9	4.0	3.5	3.8
<u>Other Reasons</u>					
Side Effects	10.1	10.2	10.1	10.1	10.1
Fear of Use	8.6	3.2	11.2	4.9	13.7
Religious Reasons	4.3	2.0	5.4	2.6	6.6
Don't Like/Want	3.6	2.2	4.2	3.7	3.4
Lack of Knowledge or Accessibility	3.5	2.9	3.7	2.7	4.5
Husband Won't Permit	2.7	1.5	3.3	1.8	3.9
Believes Can't Get Pregnant	2.6	1.7	3.0	2.0	3.4
Medical Reasons	2.2	4.9	0.9	2.9	1.3
Using Ineffective Methods	0.8	1.0	0.7	0.5	1.1
Other Reasons	3.1	3.2	3.0	2.9	3.4
Unknown	0.4	0.2	0.5	0.1	0.8
TOTAL	100.0	100.0	100.0	100.0	100.0
No. of Cases (Unweighted)	(724)	(338)	(386)	(467)	(257)

TABLE 35

Reasons for Not Currently Using Contraception,
by Education, Currently Married Women Aged 15-44
Pernambuco State, Brazil, 1980
(Percent Distribution)

<u>Reasons for Non-Use</u>	<u>Total</u>	<u>Education</u>			
		<u>None</u>	<u><Complete Primary</u>	<u>Complete Primary</u>	<u>>Complete Primary</u>
<u>Reasons Related to Pregnancy, Fecundity, & Sexual Activity</u>	<u>58.1</u>	<u>51.3</u>	<u>54.1</u>	<u>63.5</u>	<u>79.3</u>
Currently Pregnant	24.5	19.9	22.2	30.1	35.8
Desires Pregnancy	10.1	7.2	8.3	11.3	20.7
Postpartum/Breastfeeding	5.1	4.9	3.9	4.7	8.9
Menopause/Subfecund	14.8	16.4	15.2	14.1	10.6
Not Sexually Active	3.6	2.9	4.9	3.3	3.4
<u>Other Reasons</u>	<u>41.9</u>	<u>48.7</u>	<u>45.6</u>	<u>36.5</u>	<u>20.7</u>
Side Effects	10.1	9.9	12.6	7.5	8.4
Fear of Use	8.6	9.5	11.4	6.6	2.8
Religious Reasons	4.7	4.3	7.2	2.4	0.0
Don't Like/Want	3.6	4.9	1.8	4.7	2.2
Lack of Knowledge or Accessibility	3.5	5.5	2.6	2.8	0.6
Husband Won't Permit	2.7	5.1	1.0	2.3	0.9
Believe Can't Get Pregnant	2.6	2.3	3.4	3.8	0.6
Medical Reasons	2.2	0.4	3.4	2.8	3.9
Using Ineffective Methods	0.8	1.2	0.3	0.9	0.6
Other Reasons	3.1	5.5	1.0	2.8	1.1
Unknown	0.4	0.0	1.0	0.7	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0
No. of Cases (Unweighted)	(724)	(255)	(214)	(124)	(131)

TABLE 36

Percent of Non-Users Desiring to Use Contraception and of Those Desiring to Use Who Know Where to Obtain Desired Method, by Selected Characteristics, for Currently Married, Fecund, Non-users, Aged 15-44 Pernambuco State, Brazil, 1980

<u>Characteristics</u>	<u>% of Non-users Who Desire to Use a Contraceptive Method</u>	<u>% of Non-Users Desiring to Use Who Know Where to Obtain Method*</u>
Total	25.4 (605)	64.8 (106)
<u>Region</u>		
Grande Recife	29.4 (262)	57.6 (52)
Interior	23.7 (343)	68.4 (54)
<u>Residence</u>		
Urban	23.7 (374)	66.7 (64)
Rural	27.4 (231)	62.5 (42)
<u>Age Group</u>		
15-19	23.8 (65)	} 71.2 (35)
20-24	22.2 (162)	
25-29	28.6 (135)	} 81.6 (30)
30-34	33.5 (99)	
35-39	24.8 (86)	} 47.8 (41)
40-44	16.1 (58)	
<u>Education</u>		
None	27.6 (208)	58.1 (41)
<Primary Complete	25.0 (175)	66.7 (32)
Primary Complete	20.5 (103)	} 72.8 (33)
>Primary Complete	25.8 (119)	
<u>Work Status</u>		
Working	20.2 (88)	** (13)
Not Working	26.3 (517)	65.8 (93)
<u>Monthly Household Income</u>		
<1 MW*** or Goods Only	25.7 (203)	59.7 (43)
>1 MW and <2 MW	30.0 (122)	} 81.7 (35)
>2 MW and <5 MW	22.3 (69)	
>5 MW	11.1 (37)	

*Excludes women for whom desired method is rhythm or withdrawal.

**<25 cases

***MW = Minimum Wage

Note: Figures in parentheses are unweighted numbers of cases.

TABLE 37

Method of Choice and Source Where Method Would be Obtained,
by Region, Currently Married Women Aged 15-44
Who Desire to Use a Method
Pernambuco State, Brazil, 1980
(Percent Distribution)

<u>Method of Choice</u>	<u>Total</u>	<u>Region</u>	
		<u>Grande Recife</u>	<u>Interior</u>
Sterilization	33.7	42.4	29.2
Orals	25.9	21.7	28.1
Rhythm	8.5	9.8	7.9
Condoms	1.9	1.1	2.3
Other	8.5	9.8	7.9
Any Method	3.3	1.1	4.5
Don't Know	18.2	14.1	20.2
Total	100.0	100.0	100.0
No. of Cases (Unweighted)	(164)	(80)	(84)
<u>Source Where Method Would be Obtained</u>			
Health Center/Post/Hospital	36.5	30.3	39.0
INPS	16.5	9.1	19.5
BEMFAM	4.3	15.2	0.0
Community Distributor	1.7	0.0	2.4
Private MD/Clinic	15.7	18.2	14.6
Pharmacy	13.9	12.1	14.6
Other	9.6	9.1	9.8
Unstated	1.7	6.1	0.0
Total*	100.0	100.0	100.0
No. of Cases (Unweighted)	(69)	(29)	(40)

*Excludes those who do not know where to obtain their method of choice and those for whom source is inapplicable (desire to use rhythm or withdrawal).

TABLE 38

Percent of Currently Married Women Aged 15-44
That Are Interested in Sterilization
by Whether Any More Children Are Desired and Background Characteristics
Pernambuco State, Brazil, 1980

<u>Characteristics</u>	<u>% Interested in Sterilization</u>	
	<u>Desire No More Children</u>	<u>Desire More Children or Unsure</u>
Total	54.7 (425)	54.6 (474)
<u>Region and Residence</u>		
Grande Recife	71.6 (197)	75.6 (225)
Interior	46.5 (228)	44.4 (249)
Urban	61.9 (278)	65.5 (312)
Rural	44.3 (147)	38.3 (162)
<u>Age Group</u>		
15-19	* (18)	62.3 (67)
20-24	70.7 (77)	66.6 (159)
25-29	63.3 (106)	58.1 (111)
30-34	54.9 (82)	39.3 (69)
35-39	50.0 (87)	36.8 (39)
40-44	31.3 (55)	30.2 (29)
<u>Education</u>		
None	49.5 (150)	39.0 (120)
<Complete Primary	51.8 (128)	49.0 (115)
Complete Primary	61.0 (76)	53.3 (91)
>Complete Primary	68.0 (71)	79.6 (148)
<u>Household Income</u>		
<1 Minimum Wage (MW) or Goods Only	49.4 (129)	39.7 (136)
≥1 MW and <2 MW	65.6 (94)	67.2 (80)
≥2 MW and <5 MW	46.6 (53)	67.9 (73)
≥5 MW	*	74.6 (41)
<u>Contraceptive Use</u>		
Currently Using	59.9 (279)	73.1 (135)
Not Using	51.8 (146)	47.9 (339)

* < 25 cases

Note: Figures in parentheses are unweighted numbers of cases.

TABLE 39

Percent of Currently Married Women Aged 15-44 Not Wanting Any More Children and Interested in Sterilization, Who Have Knowledge of Where to Obtain Information Concerning Sterilization, by Region, Education, Income, and Residence Pernambuco State, Brazil, 1980

	<u>Total</u>	<u>Region</u>	
		<u>Grande Recife</u>	<u>Interior</u>
Total	52.7 (259)	39.3 (144)	62.5 (115)
<u>Education</u>			
None	54.3 (84)	36.1 (33)	60.4 (51)
<Complete Primary	45.7 (72)	36.7 (34)	56.1 (38)
Complete Primary	55.0 (53)	43.5 (36)	} 76.9 (26)
>Complete Primary	59.5 (50)	49.0 (40)	
<u>Household Income</u>			
<1 Minimum Wage (MW) or Goods Only	29.7 (72)	35.7 (25)	54.2 (47)
≥1 MW and <2 MW	25.6 (67)	48.9 (35)	35.0 (32)
≥2 MW	55.2 (42)	47.1 (30)	*
<u>Residence</u>			
Urban	52.7 (186)	36.7 (130)	72.4 (56)
Rural	52.5 (73)	* (14)	53.2 (59)

*<25 cases

NOTE: Figures in parentheses are unweighted numbers of cases.

TABLE 40

Reasons Never Sterilized, by Region, for Currently Married Women
Aged 15-44 Who Want No More Children, Are Interested in Sterilization and
Know Where to Obtain Sterilization Information
Pernambuco State, Brazil, 1980
(Percent Distribution)

<u>Reason</u>	<u>Total</u>	<u>Region</u>	
		<u>Grande Recife</u>	<u>Interior</u>
Costs Too Much	50.0	20.5	60.8
Physician Refusal	15.7	26.5	10.8
Intending Postpartum Sterilization	7.0	10.3	6.8
Fear of Operation/ Side Effects	5.6	5.9	5.4
Husband Won't Permit	5.1	7.4	4.1
Waiting for Children to Grow Up	3.2	4.4	2.7
Medical Reasons	1.9	2.9	1.4
Pregnancy Related Reasons*	1.4	1.5	1.4
Other Reasons	7.4	8.8	6.8
Unknown	1.8	5.9	0.0
Total	100.0	100.0	100.0
Number of Cases (Unweighted)	(126)	(56)	(70)

*Postpartum or breastfeeding

TABLE 41

Reasons Never Sterilized, by Education and Income, for Currently Married Women Aged 15-44 Who Want No More Children, Are interested in Sterilization, and Know Where to Obtain Sterilization Information Pernambuco State, Brazil, 1980
(Percent Distribution)

Reason	Total	Education			Monthly Household Income*	
		None	<Complete Primary	>Complete Primary	<1 MW or Paid in Goods Only	>1 MW
Costs too much	50.0	62.4	56.4	34.6	68.4	48.0
Physician refusal	15.7	7.8	12.7	25.0	11.7	12.0
Intending Postpartum Sterilization	7.9	5.2	12.7	7.1	3.3	15.0
Fear of Operation/ Side Effects	5.6	6.5	3.6	6.0	0.0	8.0
Husband won't permit	5.1	2.6	3.6	8.3	3.3	4.0
Waiting for Children to grow up	3.2	2.6	0.0	6.0	3.3	2.0
Medical Reasons	1.9	0.0	7.3	0.0	0.0	2.0
Pregnancy-related Reasons**	1.4	2.6	0.0	1.2	3.3	0.0
Other reasons	7.4	9.1	3.6	8.3	6.7	8.0
Unknown	1.8	1.3	0.0	3.6	0.0	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
No. of Cases (Unweighted)	(126)	(42)	(28)	(56)	(34)	(62)

*Excludes 30 women with unknown income.

**Postpartum or breastfeeding.

TABLE 42

Reasons Not Interested in Sterilization, by Region,
for Currently Married Women Aged 15-44 Who Want
No More Children
Pernambuco State, Brazil, 1980
(Percent Distribution)

<u>Reason</u>	<u>Total</u>	<u>Region</u>	
		<u>Grande Recife</u>	<u>Interior</u>
Fear of Operation	38.3	45.1	36.5
Fear of Side Effects	19.7	5.6	23.4
Thinks She Can't Get Pregnant	11.6	11.3	11.7
Costs Too Much	6.4	5.6	6.6
Religious Reasons	6.4	5.6	6.6
Husband Won't Permit	3.8	4.2	3.7
Does Not Like/Want	3.8	7.0	2.9
Prefers Non-permanent Method	2.3	8.5	0.7
No Time	0.3	1.4	0.0
Other	6.4	2.8	7.3
Unknown	1.1	2.8	0.7
Total	100.0	100.0	100.0
Number of Cases (Unweighted)	(164)	(52)	(112)

TABLE 47

Reasons for Not Currently Using Contraception,
 Currently Married Women Aged 15-44 Who Have
 Been Program Users in the Past
 Pernambuco State, Brazil, 1980
 (Percent Distribution)

<u>Reasons for Non-Use</u>	<u>%</u>
<u>Reasons Related to Pregnancy, Fecundity & Sexual Activity</u>	<u>58.5</u>
Currently Pregnant	32.5
Desires Pregnancy	6.0
Postpartum	5.5
Menopause/subfecund	9.0
Not Sexually Active	5.5
<u>Other Reasons</u>	<u>41.5</u>
Side Effects	23.5
Medical Reasons	3.5
Fear of Contraception	3.0
Waiting Sterilization	2.0
Religious Reasons	1.5
Husband Won't Permit	0.5
Other Reasons	7.5
TOTAL	100.0
No. of Cases (Unweighted)	(121)

TABLE 48

Percent of Currently Married Women Aged 15-44
with Knowledge of CBD Program by Selected Characteristics:
Pernambuco State, Brazil, 1980

<u>Characteristics</u>	<u>Percent With Program Knowledge</u>	<u>Unweighted No. of Cases</u>
TOTAL	<u>61.0</u>	<u>907</u>
<u>Region</u>		
Greater Recife	58.2	422
Interior	62.4	485
<u>Residence</u>		
Urban	65.3	592
Rural	54.9	315
<u>Age Group</u>		
15-19	50.9	88
20-24	60.5	237
25-29	68.5	217
30-34	64.6	151
35-39	60.7	129
40-44	52.2	85
<u>Education</u>		
None	54.3	277
Primary Incomplete	64.2	244
Primary Complete	69.6	167
Secondary Incomplete	61.7	117
Secondary Complete	48.6	102
<u>Work Status</u>		
Not Working	59.6	776
Working	68.6	131
<u>Income Level</u>		
<1 Minimum Wage (MW)	53.8	269
1 Time the MW	69.7	176
2-3 Times the MW	69.4	111
4+ Times the MW	43.2	74
(Unknown)	(63.7)	(277)

NOTE: This table excludes subfecund women and women who have already had surgical contraception.

TABLE 49

Source of Knowledge of CBD Program:
 Currently Married Women Aged 15-44 with Knowledge of Program
 Pernambuco State, Brazil, 1980
 (Percent Distribution)

<u>Source of Knowledge</u>	<u>Total State</u>	<u>Region</u>		<u>Residence</u>	
		<u>Greater Recife</u>	<u>Interior</u>	<u>Urban</u>	<u>Rural</u>
Friend, neighbor, or relative	84.1	88.7	82.0	87.3	78.5
Program agent	8.1	5.5	9.3	6.4	11.0
Physician or Nurse	2.7	0.7	3.6	1.5	4.8
Radio	0.4	0.0	0.6	0.3	0.6
Husband	0.1	0.3	0.0	0.2	0.0
Other	3.6	3.8	3.6	3.5	4.0
Unknown	<u>0.9</u>	<u>1.0</u>	<u>0.9</u>	<u>0.8</u>	<u>1.1</u>
Total	100.0	100.0	100.0	100.0	100.0
Number of Cases (Unweighted)	(542)	(238)	(304)	(370)	(172)

TABLE 50

Percent Interested in CBD Program by Knowledge of Program and Selected Characteristics of Currently Married Women Aged 15-44: Pernambuco State, Brazil, 1980

<u>Characteristics</u>	All Women	<u>Women by Knowledge of CBD Program</u>	
		<u>Knowledge</u>	<u>No Knowledge</u>
TOTAL	<u>41.4</u>	<u>48.3</u>	<u>30.6</u>
<u>Region</u>			
Grande Recife	41.8	51.0	29.0
Interior	41.3	47.2	31.6
<u>Residence</u>			
Urban	42.8	49.1	31.0
Rural	39.3	47.0	30.2
<u>Age Group</u>			
15-19	51.6	66.7	35.9
20-24	41.9	44.7	37.6
25-29	46.2	55.6	28.8
30-34	42.3	48.8	30.4
35-44	31.8	39.6	22.1
<u>Education</u>			
None	37.5	43.3	29.9
Primary Incomplete	43.0	50.8	27.0
Primary Complete	47.7	49.7	43.1
Secondary Incomplete	45.4	55.3	30.9
Secondary Complete	30.0	35.0	25.0
<u>Working Status</u>			
Not Working	42.8	50.1	32.3
Working	34.2	40.7	19.8
<u>Income Level</u>			
<1 Minimum Wage (MW)	36.4	45.0	26.8
1 Time the MW	42.5	45.9	34.8
2-3 Times the MW	39.6	46.6	23.7
4+ Times the MW	40.3	37.3	42.6
(Unknown)	(45.0)	(52.9)	(31.1)

NOTE: This table excludes subfecund women and women who have already had surgical contraception.

TABLE 51

Type of Delivery System Preferred by
Currently Married Women Aged 15-44 Who Are
Interested in the CBD Program
Pernambuco State, Brazil, 1980
(Percent Distribution)

<u>Type of Delivery System</u>	<u>Total State</u>	<u>Region</u>		<u>Residence</u>	
		<u>Greater Recife</u>	<u>Interior</u>	<u>Urban</u>	<u>Rural</u>
Household Delivery	57.0	59.8	55.7	55.0	60.2
Health Post	19.4	20.1	19.0	21.6	15.8
Distributor's House	3.2	2.3	3.6	2.7	3.9
No Preference	19.7	17.3	20.8	19.9	19.3
No Response	<u>0.8</u>	<u>0.5</u>	<u>0.9</u>	<u>0.8</u>	<u>0.8</u>
Total	100.0	100.0	100.0	100.0	100.0
Number of Cases (Unweighted)	(370)	(172)	(198)	(243)	(127)

TABLE 52

Reasons Not Interested in CBD Program by Region and Residence:
 Currently Married Women Aged 15-44
 Pernambuco State, Brazil, 1980
 (Percent Distribution)

<u>Reasons</u>	<u>Total State</u>	<u>Region</u>		<u>Residence</u>	
		<u>Grande Recife</u>	<u>Interior</u>	<u>Urban</u>	<u>Rural</u>
No confidence in non-medical personnel	22.9	27.8	20.6	26.2	18.3
Fear of side effects	21.5	17.5	23.4	20.1	23.4
"Does not want/like"	15.1	8.7	18.0	11.2	20.4
Prefers rhythm or withdrawal	6.9	14.1	3.5	9.7	3.0
Prefers a clinical method	5.8	10.7	3.5	6.0	5.6
Prefers to buy at the pharmacy	4.8	4.4	5.1	7.5	1.3
Religious reasons	4.3	2.0	5.4	3.0	6.1
Wants more children	4.0	3.0	4.4	5.4	2.0
Husband does not permit	3.6	1.0	4.8	2.0	5.6
No trust in "free" services	2.3	1.7	2.5	1.5	3.3
Medical reasons	1.7	4.7	0.3	2.6	0.5
Other Reasons	6.6	4.4	7.5	4.8	9.0
Unknown	<u>0.6</u>	<u>0.0</u>	<u>1.0</u>	<u>0.0</u>	<u>1.5</u>
Total	100.0	100.0	100.0	100.0	100.0
No. of Cases (Unweighted)	(537)	(250)	(287)	(349)	(138)

NOTE: This table excludes subfecund women and women who have already had surgical contraception.

TABLE 55

Month of Pregnancy at First Visit by Source of Prenatal Care:
 Women Aged 15-44 Who Have Had at Least One Live Birth
 Pernambuco State, Brazil, 1980
 (Percent Distribution)

Source of Prenatal Care	Month of Pregnancy				Total	No. of Cases (Unweighted)
	≤3	4-6	7-9	Unknown		
State/Municipal Hospital	49.1	38.2	18.9	3.8	100.0	190
Health Center/ Post	51.3	32.1	15.0	1.6	100.0	109
INPS	61.1	28.5	9.1	1.2	100.0	322
Private Doctor/ Hospital	73.2	20.4	3.5	2.9	100.0	105
Other	64.7	20.6	14.7	0.0	100.0	24
(TOTAL)						(750)*

*Excludes six women with unknown source of prenatal care.

TABLE 56

Place of Last Birth and Postpartum Care, by Region and Residence:
 Women Having Had at Least One Live Birth,
 Pernambuco State, Brazil, 1980
 (Percent Distribution)

<u>Place of Last Birth</u>	<u>Total</u>	<u>Region</u>		<u>Residence</u>	
		<u>Grande Recife</u>	<u>Interior</u>	<u>Urban</u>	<u>Rural</u>
State/Municipal Hospital	41.0	39.9	41.6	42.1	38.6
INPS Medical Facility	24.2	33.9	16.3	32.4	8.1
Private Hospital	5.8	11.8	2.0	7.8	2.0
Health Center	0.9	0.8	1.0	0.9	1.1
Own Home with Midwife or Midwife's Home	22.7	8.5	31.8	12.9	42.2
Other	5.4	2.3	7.3	4.1	7.8
Total	100.0	100.0	100.0	100.0	100.0
No. of Cases (Unweighted)	(1281)*	(678)	(603)	(906)	(375)
<u>Postpartum Visit</u>					
Yes	21.5	31.6	15.3	27.3	10.5
No	78.5	68.4	84.6	72.7	89.5
Total	100.0	100.0	100.0	100.0	100.0
No. of Cases (Unweighted)	(1290)**	(675)	(615)	(903)	(387)
<u>Months Postpartum When Visit Made</u>					
<1	25.9	20.8	32.1	24.1	34.2
1	37.2	40.1	33.0	35.0	48.8
2	18.6	19.7	17.4	20.2	9.8
3	6.8	10.8	1.9	7.8	2.4
4	4.0	3.6	4.6	4.8	--
5	0.8	0.7	0.9	0.5	2.4
6-8	3.6	2.5	5.5	4.6	--
9-11	0.4	0.7	--	0.5	--
>12	1.4	1.1	1.9	1.7	--
Unknown	1.2	--	2.8	0.7	2.4
Total	100.0	100.0	100.0	100.0	100.0
No. of Cases (Unweighted)	(317)***	(225)	(92)	(270)	(47)

*Excludes 18 women with unknown place of last birth.

**Excludes 9 women with unknown data.

***Includes only those who had postpartum checkup.

TABLE 59A

Reason for Cesarean Section at Last Birth
by Region and Residence:
Women Having Had at Least One Live Birth
Pernambuco State, Brazil, 1980

<u>Reason for Cesarian Section</u>	<u>Total State</u>	<u>Region</u>		<u>Residence</u>	
		<u>Grande Recife</u>	<u>Interior</u>	<u>Urban</u>	<u>Rural</u>
Medical	56.9	50.9	65.0	56.8	55.2
Without Sterilization	28.7	24.1	35.0	28.4	31.0
With Sterilization	28.2	26.8	30.0	28.4	24.2
Sterilization	43.2	49.1	35.0	43.2	44.8
Total	100.0	100.0	100.0	100.0	100.0
No. of Cases (Unweighted)	(239)	(176)	(63)	(200)	(39)

TABLE 59B

Reason for Cesarean Section at Last Live Birth
by Place of Last Delivery:
Women Having Had at Least One Live Birth
Pernambuco State, Brazil, 1980

<u>Reason for Cesarian Section</u>	<u>State/Municipal Hospital</u>	<u>INPS</u>	<u>Private</u>
	Medical	59.2	55.8
Without sterilization	32.9	29.5	15.6
With sterilization	26.3	26.3	37.7
Sterilization	40.8	44.2	46.7
TOTAL	100.0	100.0	100.0
No. of Cases (Unweighted)	(90)	(95)	(54)

TABLE 64

Use of Maternal-Child Health Services by Monthly Income
by Type of Services Used at Time of Last Pregnancy
Women Having Had at Least One Live Birth
Pernambuco State, Brazil, 1980

<u>MCH Services</u>	<u>Total</u>	<u>Multiples of Minimum Salaries</u>					<u>Unknown</u>
		<u><1</u>	<u>1</u>	<u>2</u>	<u>3-4</u>	<u>≥5</u>	
None	32.9	49.2	27.5	18.8	11.0	7.8	32.7
Prenatal only	22.1	23.2	23.3	14.2	27.0	17.5	22.1
Postpartum only	2.1	2.8	2.2	1.7	2.1	--	1.7
Well baby only	9.5	9.2	12.3	8.0	15.9	9.8	7.5
Prenatal and well baby care	14.2	9.6	13.8	29.0	13.8	17.5	14.5
Prenatal and post- partum care	3.1	2.0	2.5	5.7	1.4	7.8	3.3
Well baby and postpartum	1.8	1.4	2.2	3.4	2.1	1.3	1.7
All	14.5	2.7	16.2	19.3	26.8	38.3	16.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Cases (Unweighted)	(1285)*	(364)	(241)	(104)	(91)	(90)	(395)

*Excludes 14 women with unknown information

TABLE 65

Percent of Currently Married Women Aged 15-44 Currently Using Contraception
by Use of Maternal-Child Health Services
and Region and Residence
Pernambuco State, Brazil, 1980

Use of MCH Services	% Currently Using Contraception	Region		Residence	
		Grande Recife	Interior	Urban	Rural
<u>Prenatal</u>					
Yes	54.1	61.0	46.4	59.0	36.3
No	30.0	31.6	29.4	35.1	25.1
<u>Postpartum*</u>					
Yes	63.4	68.6	55.3	65.3	54.4
No	39.3	48.9	34.7	47.7	26.7
<u>Well Baby</u>					
Yes	53.2	59.0	47.8	57.6	37.9
No	38.1	51.8	32.1	47.3	26.9

*During first month after delivery.

TABLE 66

Type of Current Method of Contraception by Place of Last Delivery:
 Currently Married Women Aged 15-44 Who Have Had at Least One Live Birth
 Pernambuco State, Brazil, 1980
 (Percent Distribution)

Method	Total	Place of Last Birth				
		State Mun.	Private			
		Hospital	INPS	Hospital	Midwife	Other
None	55.4	57.3	40.2	23.0	23.2	74.4
Sterilization	20.9	19.1	33.5	57.5	4.4	6.0
Pill	13.3	15.5	14.7	6.2	9.9	11.9
IUD	0.6	0.6	0.4	2.7	0.4	0.0
Condom	0.7	0.6	0.8	1.7	0.7	0.0
Vaginal Methods	1.6	0.9	2.7	2.7	1.4	1.9
Rhythm	3.8	3.4	5.3	6.2	2.0	4.0
Withdrawal	3.6	2.6	2.5	0.0	8.0	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
No. of Cases (Unweighted)	(1127)	(455)	(330)	(76)	(212)	(54)

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TABLE 67

Percent of Children Less than 5 Years of Age with Complete Polio,
DPT, BCG, and Measles Immunization by Age of Child
Pernambuco State, Brazil, 1980

<u>Immunization</u>	<u>Total</u>	<u>A G E</u>				
		<u><1</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Polio	24.9	6.6	25.3	31.1	34.9	30.2
DPT	28.5	12.5	28.1	34.9	38.8	30.9
BCG	29.9	10.7	31.0	36.9	38.9	35.3
MSL	26.6	4.0	29.1	34.1	38.9	30.9
No. of Children (Unweighted)	1847	410	379	358	354	346

TABLE 68

Percent of Children Less Than 5 Years of Age with Complete Polio,
DPT, BCG, and Measles Immunization by Residence and by Region
Pernambuco State, Brazil, 1980

<u>Immunization</u>	<u>Total</u>	<u>Residence</u>		<u>Region</u>	
		<u>Urban</u>	<u>Rural</u>	<u>Grande Recife</u>	<u>Interior</u>
Polio	24.9	34.7	9.7	40.6	15.4
DPT	28.5	39.3	15.4	44.1	14.9
BCG	29.9	42.6	17.0	47.0	19.5
MSL	26.6	35.0	15.5	36.0	20.9
No. of Children (Unweighted)	1847	1209	638	918	929

TABLE 69

Percent of Children Less Than 5 Years of Age with Complete Polio,
DPT, BCG, and Measles Immunization by Income
Pernambuco State, Brazil, 1980

Immunization	Total	Minimum Salaries					Unknown
		<1	1	2	3-4	>5	
Polio	24.9	13.8	18.2	33.0	45.0	53.9	27.5
DPT	28.5	18.8	19.4	39.0	47.4	52.3	30.4
BCG	29.9	20.2	30.9	32.7	49.8	54.4	29.9
MSL	26.6	17.0	27.7	30.1	46.5	40.7	28.1
No. of Children (Unweighted)	1847	539	313	149	110	108	628

TABLE 70

Percent Distribution of Children Less than 5 Years of Age by Number of Doses of Vaccine by Region and Age Group
Pernambuco State, Brazil, 1980

Region and Age Group	No. of Doses of Polio Vaccine				No. of Children (Unweighted)
	0	1	2	3+	
G. Recife	6.3	26.5	26.1	40.6	918
<1	17.6	32.7	32.7	11.0	210
1-4	2.9	23.1	24.0	49.3	708
Interior	10.1	63.7	9.3	15.4	929
<1	20.0	68.2	6.9	3.7	200
1-4	7.4	62.3	9.9	19.8	729
Total	8.7	49.7	15.6	24.9	1847
<1	19.1	56.2	17.0	6.6	410
1-4	5.6	47.7	15.2	30.3	1437
	No. of Doses of DPT Vaccine				% with 2+ Doses
G. Recife	35.1	11.4	12.8	31.3	44.1
<1	65.1	10.1	10.7	7.9	18.6
1-4	25.9	11.8	13.5	38.4	51.9
Interior	63.6	9.5	8.5	10.4	18.9
<1	78.0	7.4	6.9	1.6	8.6
1-4	59.5	10.1	9.0	12.9	21.9
Total	52.7	10.2	10.2	18.3	25.5
<1	72.7	8.4	8.4	4.1	12.5
1-4	47.0	10.7	10.7	22.5	33.2
	No. of Doses of BCC Vaccine				% with 1+ Doses
G. Recife	45.1	42.3	4.7		47.0
<1	75.2	19.5	0.3		19.8
1-4	35.9	49.2	6.1		55.3
Interior	71.3	16.9	2.6		19.5
<1	88.2	4.5	0.4		4.9
1-4	66.5	20.4	3.2		23.6
Total	61.4	26.5	3.4		29.9
<1	83.1	10.4	0.3		10.7
1-4	55.1	31.2	4.3		35.5
	No. of Doses of Measle Vaccine				% with 1+ Doses
G. Recife	54.5	33.4	2.6		36.0
<1	84.9	7.9	0.3		8.2
1-4	45.3	41.2	3.2		44.4
Interior	71.7	19.2	1.7		20.9
<1	91.0	1.2	0.0		1.2
1-4	66.3	24.3	2.2		26.5
Total	65.2	24.6	2.0		26.6
<1	88.6	3.8	0.2		4.0
1-4	58.5	30.6	2.5		33.1

TABLE 71

Percent of Children Less Than 1 Year of Age with Complete Polio,
DPT, BCG, and Measles Immunization by Residence and by Region
Pernambuco State, Brazil, 1980

<u>Immunization</u>	<u>Total</u>	<u>Residence</u>		<u>Region</u>	
		<u>Urban</u>	<u>Rural</u>	<u>Grande Recife</u>	<u>Interior</u>
Polio	6.6	7.5	5.1	11.0	3.7
DPT	12.5	13.8	10.6	18.6	8.6
BCG	10.7	15.7	3.6	19.8	4.9
MSL	4.0	6.1	0.9	8.2	1.2
No. of Children (Unweighted)	410	265	145	210	200

TABLE 72

Evaluation of Immunization Levels For Polio Vaccine Before and After
Mass Campaign in June 1980: Children Less than 5 Years of Age,
by Region and Residence
Pernambuco State, Brazil

<u>Region & Residence</u>	<u>Percentage of Children with 1 or More Doses of Polio Vaccine</u>		<u>Increase in Percentage Vaccinated</u>	<u>No. of Children (Unweighted)</u>
	<u>Before Campaign</u>	<u>After Campaign</u>		
Total State	40.8	91.3	50.5	1846
Recife	58.3	94.2	35.9	916
Interior	30.4	89.6	59.2	930
Urban	52.4	94.8	42.4	1208
Rural	22.5	86.0	63.5	638

B. Improvement in Polio Vaccination Status After Mass Campaign by Number of Doses*

<u>Region & Residence</u>	<u>0-1</u>	<u>1-2</u>	<u>2-3</u>	<u>3-4</u>
Total State	85.3	57.9	73.4	68.4
Recife	86.1	59.8	83.8	57.3
Interior	85.0	56.2	71.4	82.7
Urban	89.1	54.3	77.8	67.5
Rural	81.9	65.0	79.6	78.3

*The percentage of children with 0 doses before the mass campaign that received a dose of vaccine in the mass campaign (0-1), etc.